

# MAINE STATE LEGISLATURE

The following document is provided by the  
**LAW AND LEGISLATIVE DIGITAL LIBRARY**  
at the Maine State Law and Legislative Reference Library  
<http://legislature.maine.gov/lawlib>



Reproduced from scanned originals with text recognition applied  
(searchable text may contain some errors and/or omissions)

STATE LAW LIBRARY  
AUGUSTA, MAINE

PHASE II  
RENOVATIONS

STATE HOUSE  
AUGUSTA, MAINE

PROJECT MANUAL

JULY 18, 1988

OCT 4 1990



TABLE OF CONTENTS  
To  
PROJECT MANUAL  
For  
PHASE II RENOVATIONS, STATE HOUSE  
For  
STATE OF MAINE LEGISLATURE  
Augusta, Maine

SECTION NO.    TITLE

---

BIDDING DOCUMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT

ADV	ADVERTISEMENT FOR BIDS
IB	INSTRUCTIONS TO BIDDERS
FGB	FORM FOR GENERAL BID
BB	FORM OF BID BOND - AIA DOCUMENT A-310 (by Reference)
CA	CONTRACT AGREEMENT - AIA DOCUMENT A-101 (by Reference)
GC	GENERAL CONDITIONS - AIA DOCUMENT A-201 1987 Edition (by Reference)
SGC	SUPPLEMENTARY GENERAL CONDITIONS

SPECIFICATIONS

DIVISION 1    GENERAL REQUIREMENTS

01010	SUMMARY OF WORK
01046	REMOVALS/ALTERATIONS/CUTTING/PATCHING; GENERAL
01060	DEFINITIONS AND STANDARDS
01155	REPORTS, MEETINGS, PAYMENTS
01210	PROCEDURES, PERFORMANCES, COORDINATION
01340	QUALITY ASSURANCE; SUBMITTALS
01500	TEMPORARY FACILITIES AND CONTROLS
01700	PROJECT CLOSEOUT

DIVISION 2 - SITE WORK

02052	SELECTIVE REMOVALS AND DEMOLITION
02100	SITE PREPARATION
02200	EARTHWORK
02510	CONCRETE WALKS
02520	UNIT PAVERS (CASH ALLOWANCE)
02530	GRANITE CURBING
02900	LAWNS
02950	PLANTING



SECTION NO.      TITLE

---

DIVISION 3 - CONCRETE

03300      CAST-IN-PLACE CONCRETE

DIVISION 4 - MASONRY

04200      UNIT MASONRY

DIVISION 5 - METALS

05120      STRUCTURAL STEEL  
 05210      STEEL JOISTS  
 05300      METAL DECKING  
 05500      MISCELLANEOUS METALS

DIVISION 6 - WOOD AND PLASTICS

06100      ROUGH CARPENTRY  
 06130      WOOD DECKING  
 06190      WOOD TRUSSES  
 06410      ARCHITECTURAL WOODWORK  
 06450      MODULAR LAMINATE CASEWORK

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07117      ASPHALT/POLYETHYLENE WATERPROOFING  
 07160      BITUMINOUS DAMPPROOFING  
 07176      ACRYLIC EMULSION EXTERIOR MASONRY COATING  
 07200      BUILDING INSULATION  
 07610      METAL ROOFING AND FLASHING  
 07900      JOINT SEALERS

DIVISION 8 - DOORS AND WINDOWS

08100      STEEL DOORS AND FRAMES  
 08210      WOOD DOORS  
 08620      WOOD WINDOWS  
 08710      FINISH HARDWARE  
 08800      GLASS AND GLAZING

SECTION NO.    TITLE

---

DIVISION 9 - FINISHES

09250      GYPSUM DRYWALL, LATH & PLASTER  
09300      TILE WORK  
09500      ACOUSTICAL CEILINGS  
09650      RESILIENT FLOORING  
09680      CARPETING  
09900      PAINTING

DIVISION 10 - SPECIALTIES

10162      TOILET COMPARTMENTS  
10440      GRAPHICS (CASH ALLOWANCE)  
10520      PORTABLE FIRE EXTINGUISHERS/CABINETS/ACCESSORIES  
10800      TOILET ACCESSORIES

DIVISION 11 - EQUIPMENT (NOT USED)

DIVISION 12 - FURNISHINGS (NOT USED)

DIVISION 13 - SPECIAL CONSTRUCTION (NOT USED)

DIVISION 14 - CONVEYING EQUIPMENT

14210      HANDICAPPED LIFT

DIVISION 15 - MECHANICAL

15000      SUPPLEMENTAL MECHANICAL GENERAL REQUIREMENTS  
15100      PLUMBING  
15200      HEATING & VENTILATING

DIVISION 16 ELECTRICAL

16000      SUPPLEMENTAL ELECTRICAL GENERAL REQUIREMENTS  
16010      ELECTRICAL

DRAWINGS (SEE TITLE SHEET OF DRAWINGS)

END



Phase II Renovations, State House

**NOTE: THIS IS COPY OF LEGAL NOTICE AS PUBLISHED IN NEWSPAPERS. BID OPENING DATE AS PUBLISHED IN NEWSPAPERS HAS BEEN CHANGED TO THURSDAY, AUGUST 11, 1988 AT 2:00 PM, ROOM 334, STATE CAPITOL BUILDING.**

**LEGAL NOTICE**

**NOTICE TO CONTRACTORS**

**PHASE II RENOVATIONS  
STATE HOUSE  
Augusta, Maine**

Sealed Proposals will be received from General Contract Bidders addressed to:

State of Maine Legislature,  
c/o Sarah C. Diamond  
Executive Director of the Legislative Council  
Bureau of Public Improvements  
State House Station 77,  
Augusta, Maine 04333.

Bids will be received until Tuesday, August 9, 1988 at 2:00 P.M. in Room 334, State Capitol Building, at which time they will be publicly opened and read aloud.

**PROJECT DESCRIPTION:** Work of the proposed Contract consists of an addition to form a new media communications center; renovations of spaces currently occupied by the media; and renovations of certain other interior spaces, consisting of approximately 2,100 square feet of new construction and 5,240 feet of renovations. Work includes sitework, general construction, plumbing, heating and ventilation and electrical work, in accordance with Plans and Specifications as prepared by Moore/Weinrich Architects, 14 Maine Street, Suite 401, Brunswick, ME 04011.

**BIDDING DOCUMENTS:** The complete Bidding Documents, consisting of Advertisement for Bids, Instructions to Bidders, Bid Forms, General Conditions, Supplemental General Conditions, Contract Forms, Drawings, Specifications, and Addenda (if any), may be obtained after 12 noon on July 20, 1988, from:

Moore/Weinrich Architects  
14 Maine Street (Fort Andross Building), Suite 401  
Brunswick, ME 04011  
(207) 729-1636

A set of the Bidding Documents may be obtained upon deposit of \$50.00 per set as well as a non-refundable postage and handling charge of \$15.00 per set. Payments shall be made in form of separate checks for deposit and handling costs, each made payable to Moore/Weinrich Architects. No partial sets will be issued. Upon receipt of checks for deposit and handling costs, documents may be picked up at Architect's office when available; or if requested Architect will send documents UPS express charges collect.

Phase II Renovations, State House

General bidders submitting bona fide bids will be reimbursed the full amount of the deposit upon return of the COMPLETE SETS UNMARKED AND IN GOOD CONDITION WITHIN 14 DAYS OF BID OPENING.

Bidding Documents may be examined at the following places:

Moore/Weinrich Architects, 14 Maine Street, (Fort Andross Building), Suite 401, Brunswick, ME 04011 (207) 729-1636

F.W. Dodge, 47 Atlantic Place, South Portland, Maine 04106 (207) 774-3488

F.W. Dodge, 835 Hanover Street, Suite 103, Manchester, NH 03104 (603) 645-6554

Dunlap Construction Bureau, 31 Court Street, P.O. Box 40, Auburn, Maine 04210 (207)783-2211

Dunlap Construction Bureau, 260 Harlow Street, P.O. Box 1080, Bangor, Maine 04401

Associated General Contractors of Maine, Whitten Road, P.O. Box N, Augusta, Maine 04330 (207) 622-4741

REJECTION OR ACCEPTANCE OF BIDS: Owner reserves the right to waive all formalities and to reject any or all proposals, and to accept any proposal.

By: Sarah Diamond  
Executive Director of the  
Legislative Council

INSTRUCTIONS TO BIDDERS

1. GENERAL:

- A. Sealed bids of General (Prime) Contract Bidders for the work described herein will be received by the State of Maine Legislature, hereinafter called "Owner", at the times and places described in the Advertisement for Bids in accordance with the terms of such document and these Instructions to Bidders.
- B. At the time of the opening of Bids, each Bidder will be presumed to have inspected the site and to have read and be thoroughly familiar with the Plans and Contract Documents, including all Addenda. The failure or omission of any Bidder to receive or examine any form, instrument, or document shall in no way relieve any Bidder from any obligation in respect to his Proposal. The Owner reserves the right to accept or reject any or all Bids as may best serve the interest of Owner. Any Bid filed on an incomplete form may be considered informal and not a valid Proposal.
- C. No Bid may be withdrawn during a period of sixty (60) calendar days immediately following the opening of the Bids.
- D. Telegraphic Bids will not be considered, but modifications by telegram of Bids already submitted will be considered if received prior to the hour set for receipt of Bids. If the telegram discloses the Amount of the Bid submitted the Bid may be declared invalid.

2. SUBMISSION OF BIDS:

- A. Each Contract Bid must be submitted in a sealed, opaque envelope, addressed to:

State of Maine Legislature  
Sarah Diamond, Executive  
Director of Legislative Council  
c/o Bureau of Public Improvements  
State House Station 77  
Augusta, Maine 04333

- B. Each Bid must contain, on the outside of the envelope, the following:

NAME AND BUSINESS ADDRESS OF BIDDER  
LICENSE NO. IF APPLICABLE  
BID FOR GENERAL CONTRACT  
PHASE II RENOVATIONS, STATE HOUSE

- C. Bids may be mailed, at the sole risk of the Bidder. Bids arriving late for any reason will not be considered, and bids inadvertently opened beforehand will be rejected. If mailed, the sealed envelope should be enclosed in a second outer, opaque sealed envelope, with each envelope addressed as described above and each marked additionally, in LARGE RED LETTERS, with:

**SEALED BID - DO NOT OPEN IN MAILROOM!**

- D. Each Bid shall be submitted on the form provided in the Specifications, and be complete. Any Bid submitted on a different form, or containing qualifications or additions not called for, or lacking information called, may be considered informal and as such will be subject to rejection.

**3. TAXES:**

- A. The Owner is exempt from the payment of Federal Excise Tax on articles not for resale and the Federal Transportation Tax on all shipments. Bidders shall quote less these taxes.
- B. Maine State Sales and Use Tax should not be included in quotation as Owner is exempt from the payment of such taxes. All Contractors and Subcontractors should refer to State of Maine, Bureau of Taxation, "Sales and Use Tax Instructions".
- C. The Owner's exemption certificate numbers will be furnished on request of any Bidder.

**4. ALTERNATES:**

- A. General: The work of the various trades to be performed under Alternates shall be in strict accordance with the requirements of the particular trade Section of the Specifications.
- B. Bidding Instructions for Alternates:
  - 1. Each Bidder shall be held fully responsible for examining the scope of the Alternates generally defined herein, and for recognizing any modifications to the work caused by any Alternate whether or not it is mentioned in a particular trade Section.
  - 2. Prices for Alternates shall include overhead, profit, and all other expense items incidental to the work.
  - 3. Bidders shall bid on all Alternates; the term "NO BID" should not be used. If the price for an Alternate results in neither an addition nor a deduction to the Base Bid sum, the words "NO CHANGE" should be inserted in the appropriate spaces.
  - 4. The Owner shall have the right to accept or reject any or all Alternates prior to signing the Agreement. Alternates may be accepted in any order, not necessarily in the order in which they are listed in this Section or on the Bid Forms.

**5. BID SECURITY:**

- A. Each Bid must be accompanied by a Bid Security in the form of Cash, or a Certified Check on, or a Treasurer's or Cashier's Check issued by a responsible bank or trust company, payable to Owner, or a Bid Bond on a form as approved by the AIA and having as surety a surety company licensed to do business in the State of Maine. The amount of such Bid

- B. Every Bid which is not accompanied by the prescribed Bid Security may be considered as informal and be rejected.
  - C. All Bid Securitys of Bidders, except those of the three (3) lowest responsible and eligible Bidders, will be returned within five (5) days, Saturdays, Sundays, and legal holidays excluded, after the opening of the Bids. The Bid Securitys of the three (3) lowest responsible and eligible Bidders will be returned upon the execution and delivery of the Contract, or, if no award is made, upon the expiration of the time stipulated for cancellation of Bids; except that, if any Bidder fails to perform his agreement to execute a Contract and furnish a Performance Bond and also a Labor and Materials or Payment Bond as stated in his Bid, his Bid Security shall become and be the property of Owner as liquidated damages. The amount of the Bid Security which becomes the property of Owner shall not, in any event, exceed the difference between his Bid Price and the Bid Price of the next lowest responsible and eligible Bidder.
  - D. Every Bidder whose Bid Security in a form other than a Bid Bond if not returned pursuant to the foregoing provisions may as of right, file with Owner at any time after five (5) days, Saturdays, Sundays, and legal holidays excluded, from the opening of the Bids, a Bond in an amount not less than the amount of his Bid Security, and in a form satisfactory to Owner, and by a Surety licensed to do such business in the State of Maine, and conditioned upon the faithful performance by the principal of his agreements as contained in his Bid. The original Bid Security of the Bidder filing such Bond will then be returned to him.
6. CONTRACT SECURITY:
- A. The Selected Contractor will be required to furnish a 100% Performance Bond and a 100% Payment Bond to cover the execution of his Contract, in form as approved by the American Institute of Architects and complying with applicable State laws and regulations, by a surety company licensed to transact such business in the State where the construction is to take place.
7. PRE-BID CONFERENCE:
- A. A pre-bid conference will be held at 10:00 a.m. on Thursday, August 4, 1988 at Legislative Council Chambers, Room 334, State House, Augusta, Maine.
  - B. Purpose of the conference will be to to conduct a walk-through of the site, and answer questions of prospective bidders.

END





**SGC - SUPPLEMENTARY GENERAL CONDITIONS**

**GENERAL CONDITIONS**

- A. The "General Conditions of the Contract for Construction", Document A-201, Fourteenth Edition 1987, as issued by the American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006; form the General Conditions for this Contract whether bound herein or not.
1. If not bound herein, Architect will advise Bidders of how to obtain copies or will allow Bidders to examine copy at Architect's office during normal business hours.
- B. The provisions of the foregoing document shall apply to the Work of this Contract, except as modified or supplemented hereinafter in the Supplementary Conditions. Where General Conditions Paragraphs or Subparagraphs are modified in part by the Supplementary Conditions, the portions of same which have not been modified shall remain in effect.

**ARTICLE 1 - GENERAL PROVISIONS:**

**Paragraph 1.1 Basic Definitions:**

**1.2.3 Add following Clauses to this Subparagraph:**

1.2.3.1 In the event of conflict or discrepancies among the Contract Documents, or with work already in place in the case of Supplementary Instructions, do not proceed further until Architect is notified and decision rendered.

1.2.3.2 For purposes of payment only the Documents shall be construed according to the following priorities.

- |                     |                                       |
|---------------------|---------------------------------------|
| .1 Highest Priority | Modifications                         |
| .2 Second Priority  | Agreement                             |
| .3 Third Priority   | Addenda-later date to take precedence |
| .4 Fourth Priority  | Division 1 - General Requirements     |
| .5 Fifth Priority   | Supplementary General Conditions      |
| .6 Sixth Priority   | General Conditions                    |
| .7 Seventh Priority | Drawings and Specifications           |

1.2.3.3 In the event of conflict between Drawings and Specifications as to the extent or location of materials, for purposes of payment only the following order of precedence shall govern :

- .1 Large Scale Drawings

.2 Smaller Scale Drawings

.3 Schedules

.4 Specifications

1.2.3.4 In the event of conflict as to the type or quality of materials to be supplied, for purposes of payment only the Specifications shall govern.

1.2.3.5 In the event conflicts cannot be resolved by any of the foregoing Architect shall be the interpreter of the requirements.

### ARTICLE 3 - CONTRACTOR:

Paragraph 3.2 Review of Contract Documents and Field Conditions by Contractor: Add following Subparagraphs:

3.2.4 Contractor shall study all Contract Documents and field conditions, and advise Architect immediately of anything Contractor deems inconsistent with terms of the Contract or Work already in place, as well as any observed errors, inconsistencies or omissions.

3.2.5 Contractor shall study the Contract Documents before starting the Work and at frequent intervals during the progress of the Work.

3.2.6 If Contractor proceeds with the Work without advising Architect of discovered errors, inconsistencies or omissions which should have been discovered by reasonable study of the Contract Documents or field conditions, Contractor shall bear all costs arising therefrom.

3.2.7 Contractor shall give Architect timely notice of any additional design drawings, specifications, or instructions required to define the Work in greater detail, in order to permit the proper progress of the Work.

3.2.8 Contractor shall not proceed with any work not clearly and consistently defined in detail in the Contract Documents, but shall request additional drawings or instructions from Architect as provided in Subparagraph 3.2.7. If Contractor proceeds with such work without obtaining further drawings or instruction, corrective measures shall be performed at Contractor's expense.

Paragraph 3.4 Labor and Materials: Add following Subparagraphs:

3.4.3 Not later than 15 days from the Contract Date, or as agreed, Contractor shall provide a list showing the name of the manufacturer proposed to be used for each of the major products to be used in the Work and, where applicable, the name of the installing Subcontractor.

3.4.4 Architect will promptly reply in writing to Contractor stating whether Owner or Architect, after due investigation, has reasonable objection to any such proposal. If adequate data on any proposed

manufacturer or installer is not available, Architect may state that action will be deferred until Contractor provides further data. Failure of Owner or Architect to reply promptly shall constitute notice of no reasonable objection. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must conform to such requirements.

3.4.5 After the Contract has been executed Owner and Architect will consider a formal request for substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 1 of the Specifications).

3.4.6 By making requests for substitutions Contractor:

- .1 represents that Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
- .2 represents that contractor will provide the same warranty for the substitution that Contractor would for that specified;
- .3 certifies that the cost data presented is complete and includes all related costs under this Contract except Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
- .4 will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

Paragraph 3.7 Permits, Fees, and Notices:

Subparagraph 3.7.1 Add the following sentence: "Contractor shall secure the building permit. Payment will be waived by Owner.

Paragraph 3.8 Allowances: Delete in its entirety and substitute the following:

3.8 Allowances:

3.8.1 The Contract Price shall be deemed to include all Allowances described in the Specifications, Cash or otherwise. A Cash Allowance shall be the net amount available within the Contract Price for the purpose and/or installation of the work described. The amount *does not* include any costs for Contractor's overhead and profit, or for any other items of work not specifically stipulated as included under the Allowance. All costs for Contractor's overhead, profit, insurance and other incidental expenses, and for all items of work not specifically included under the Allowances shall be deemed included in the Contract Price separate from the allowances.

3.8.1.1 Trade discounts for work performed under an Allowance shall inure to the benefit of Owner.

3.8.4 Where material is to be furnished only under a Cash Allowance, the Cash Allowance shall cover only the furnishing and delivery of the material to tailgate of truck at jobsite, unless otherwise stipulated.

3.8.5 Sales and other taxes, if any, on materials to be furnished under an allowance shall be deemed included in the Cash Allowance.

3.8.6 Owner, acting through Architect, will select the items described under each allowance; Contractor shall solicit and receive at least three bids on such work as approved or directed by Owner, and shall award a purchase order and/or subcontract for the same as directed. Owner reserves the right to solicit proposals directly and to then direct Contractor to award a purchase order and/or subcontract for the work in question to the selected parties.

3.8.6.1 Contractor shall not be required to employ persons or other entities against whom Contractor makes reasonable objection.

3.8.7 Should the actual net cost to Contractor for providing the items included within an allowance, be more or less than the allowance, the Contract Price shall be increased or decreased by the actual difference as applicable, without consideration of overhead or profit, except:

.1 If the actual net cost to Contractor for an item under an Allowance is more than one hundred and twenty percent (120%) of the Allowance figure, Contractor will be allowed an additional ten percent (10%) of the amounts over such one hundred and twenty percent to cover his increased overhead and profit.

.2 If the actual net cost to Contractor for an item under an Allowance is less than eighty percent (80%) of the Allowance figure, Owner will be credited with an additional ten percent (10%) of the amounts under such eighty percent, to cover Contractor's reduced overhead and profit.

3.8.8 All costs in connection with Cash Allowances shall be verified by receipted invoices or other means as the Architect may direct.

#### ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

##### Paragraph 4.2 Architect's Administration of Contract:

###### Subparagraph 4.2.10 Add following Clauses:

4.2.10.1 If a Project Representative is engaged, at request of Owner, the exhibit to be incorporated into the Contract Documents will be essentially similar to AIA Document B 352.

4.2.10.2 The Project Representative shall interpret Drawings and Specifications and shall pass judgment on all materials and workmanship, but shall have no authority to reject or condemn same. Material used or work continued against his judgment shall be at the

risk of Contractor. If Architect confirms the Project Representative's judgment, the unsatisfactory material or work shall be made good or replaced at Contractor's expense; if Owner so directs.

- 4.2.10.3 In the absence of a Project Representative it shall be the responsibility of Contractor to coordinate monthly inspections of the Work by the Architect. Should more frequent inspection be required due to conditions of the Work, such inspections shall be approved by Owner.

**ARTICLE 7 - CHANGES IN THE WORK:**

**Paragraph 7.1 Changes:**

- 7.1.1 Add following Clause to Subparagraph 7.1.1:

7.1.1.1 Work performed pursuant to Supplementary Instructions shall not be considered as Changes in the Work provided such Work is consistent with the intent of the Schematic Drawings, Outline Specifications and other Documents available at time of execution of the Contract.

**Paragraph 7.2 Change Orders: Add following Subparagraph:**

- 7.2.3 The Contract Sum shall be the Guaranteed Maximum Price as agreed to between Owner and Contractor and defined in the Owner-Contractor Agreement.

**Paragraph 7.3 Construction Change Directives:**

- 7.3.6 On fifth, sixth and seventh lines delete the words "including a reasonable allowance for overhead and profit" and substitute "an allowance for overhead and profit in accordance with the schedule set forth in subparagraph 7.3.10 below."

Add the following Subparagraph:

- 7.3.10 In subparagraphs 7.3.3.3 and 7.3.6 the allowance for overhead and profit combined, included in the total cost to Owner, shall be based on the following schedule:

- .1 For Contractor, for any Work performed by the Contractor's own forces, 15 percent of the cost.
- .2 For Contractor, for Work performed by his Subcontractor, 7 percent of the amount due the Subcontractor.
- .3 For each Subcontractor or Sub-subcontractor involved, for any Work performed by that Contractor's own forces, 15 percent of the cost.
- .4 For each Subcontractor, for Work performed by Sub-subcontractors, 7 percent of the amount due the Sub-subcontractor.
- .5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.6.

- .6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change be approved without such itemization.
- a. In no case will a change involving over \$1,000.00 be approved without such itemization.

**ARTICLE 9 - PAYMENTS AND COMPLETION:**

**Paragraph 9.2 Schedule of Values:** Add the following Subparagraphs:

- 9.2.2 Each subdivision or classification of the work shall be identified by letter or code number with particular reference to each individual Section (or Sub-Section where applicable) of the Specifications and Contractor shall append thereto a schedule of the names, addresses (and whether individual, partnership or corporation) of each Subcontractor or Sub-Subcontractor who is to perform all or any part of each subdivision. In the event any Subcontractors or Sub-Subcontractors are not known at the time said schedule is prepared, an amended or supplementary schedule of the names of the Subcontractors and Sub-Subcontractors involved indicating their division of the work shall be furnished to Architect as soon as the information is available. A code number and letter for identification on requisitions shall be used to identify Contractor, each of the Subcontractors and Sub-ordinate Subcontractors, and shall be shown in each requisition where any part of the work performed by Contractor, such Subcontractors, Sub-Subcontractors or material men is incorporated in the amount of the requisition for which payment is requested.

**Paragraph 9.3 Applications for Payment:**

9.3.1: Add following Clauses to Subparagraph 9.3.1:

- 9.3.1.3 Until the Work is 50 percent complete, Owner will pay 90 percent of the amount due Contractor on account of progress payments. At the time the work is 50 percent complete and thereafter, if the manner of completion of the Work and its progress are and remain satisfactory to Architect, and in the absence of other good and sufficient reasons, Architect will authorize zero retainage on any remaining partial payments; provided: that if a surety bond is required under the Contract, a Consent of Surety shall be presented with each application unless a blanket extension has been provided by such Surety in language giving the Surety the right to revoke such consent at any time.

9.3.1.4 The full Contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to Architect or Owner, or if the Surety withholds its consent.

9.3.2: Add following Clauses to Subparagraph 9.3.2:

9.3.2.1 Contractor, Subcontractors and Sub-Subcontractors shall obtain prior written approval from the Owner through Architect for permission to store materials to be incorporated in the Work, for which Progress Payments will be requested, at off-site locations. Any and all charges for storage, including insurance, shall be borne solely by Contractor. Before approval, Owner will require proper proof of insurance and a letter in which is furnished:

- .1 The name of Contractor and/or Subcontractor or Subordinate Subcontractor leasing the storage area.
- .2 The location of such leased space.
- .3 The leased area: the entire premises of certain areas of a warehouse giving the number of floors or portions thereof.
- .4 The date on which the material is first stored.
- .5 The value of the material stored.

9.3.2.2 Contractor, his Subcontractors and Subordinate Subcontractors shall notify Architect and Owner to inspect, at least once each month, the materials being stored at any location.

9.3.2.3 Contractor, Subcontractors and Subordinate Subcontractors shall mark each sealed carton as follows:

MAINE STATE CAPITOL BUILDING, PHASE II RENOVATIONS & ADDITIONS  
AUGUSTA, MAINE  
MOORE/WEINRICH ARCHITECTS

9.3.2.4 A perpetual inventory shall be maintained for all materials held in storage for which payment has been requested.

9.3.2.5 Payment for materials stored off site shall be at the sole discretion of Owner. Any additional costs to the Owner resulting from storage of material off site for which payment is requested, such as, but not limited to, travel expenses and time for inspectors, shall be backcharged to, and paid by, Contractor.

Paragraph 9.11 Completion Time and Liquidated Damages:

9.11.1 The Date of Completion is stated in the Proposal Form Section 2-B and in the Contract Form Section 2-E. If the Contractor finds it impossible to complete the Work on or before the said Date of Completion, he may make a written request to the Owner for an Extension of Time setting forth therein the reasons for the request. If the Owner



finds that the Work was delayed because of conditions beyond the control and without the fault of the Contractor he may extend the Date of Completion which shall then be in full force and effect, the same as though it were the original Date of Completion.

9.11.2 Time is an essential element of the Contract and it is important that the Work be pressed vigorously to completion. The cost to the Owner of Administration of the Contract, inspection and supervision will be increased as the time occupied in the Work is lengthened.

9.11.3 For each calendar day that any Work shall remain uncompleted after the Date of completion specified in the Contract, the amount per day, listed below in the Schedule of Liquidated Damages, shall be deducted from any money due the Contractor, not as a penalty but as Liquidated Damages, provided, however, that due account shall be taken of any adjustment of the Date of Completion granted under the provisions of Paragraph (a) above.

SCHEDULE OF LIQUIDATED DAMAGES

<u>Original Contract Amount</u>	<u>Amount of Liquidated Damages Per Day</u>
More than \$ 10,000 and less than \$ 100,000	\$ 100.00
More than 100,000 and less than 200,000	200.00
More than 200,000 and less than 500,000	300.00
More than 500,000 and less than 1,000,000	600.00
More than 1,000,000 and less than 3,000,000	900.00
3,000,000 and more	1,500.00

Supplement Article 43 as follows: "The foregoing liquidated damages amounts are *not* the exclusive remedies of Owner. In no event will Contractor be allowed to elect payment of liquidated damages in lieu of complying with all requirements of the Contract including those of Article 19 as amended."

ARTICLE 11 - **INSURANCE AND BONDS:** Delete this Article in its entirety and substitute the following:

**ARTICLE 11- CONTRACTOR'S INSURANCE REQUIREMENTS:**

Paragraph 11.1 General: Contractor shall not commence work under this Contract until he has obtained all Insurance required under this paragraph and such Insurance has been approved by Owner, nor shall Contractor allow any Subcontractor to commence Work on his subcontract until all similar Insurance required of Subcontractor has been so obtained and approved.

11.1.1 Compensation Insurance: Contractor shall take out and maintain during the life of the contract, Workmen's Compensation Insurance for all of his employees employed at the Site of the Project, and, in case any Work is sublet, Contractor shall require Subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by Contractor.

.1 In case any class of employees engaged in hazardous Work under this Contract at the site of the Project is not protected under the Workmen's Compensation Statute, Contractor shall provide and shall cause each Subcontractor to provide for the protection of his employees not otherwise protected.

11.1.2 Public Liability and Property Damage Insurance. Contractor and Subcontractor shall take out and maintain during the life of the Contract such public liability and property damage insurance as shall protect them from claims and damages which may arise from operation under this Contract, whether such operations shall be by themselves or by anyone directly or indirectly employed by them, and the types and amounts of each insurance shall not be less than:

<u>Description</u>	<u>Coverage</u>	<u>Each Occurrence</u>
.1 Contractor's Liability	B.I. P.D.	\$1,000,000.00 500,000.00
.2 Contractor's Protective Liability	B.I. P.D.	\$1,000,000.00 500,000.00
.3 Vehicle Liability, to include Owned, Hired, or Non-Owned	B.I. P.D.	\$1,000,000.00 500,000.00
.4 Special Hazards Insurance: Full coverage for damage or loss resulting from explosion of blasting, collapse and underground damage in the amounts and manner specified in this Article, Paragraph 11.1.2, and Item 1 and 2 above, ordinarily excluded from coverage, is to be provided for this Project.		

11.1.3 New Construction: Contractor shall effect and maintain insurance naming Owner and contractor and all Subcontractors, as their interests may appear, as insured for the perils of fire, extended coverage, vandalism and malicious mischief upon the entire structure on which the work of this Contract is to be done up to one hundred percent of the contract value upon the *Standard Builders Risk Completed Value Form* and the *Standard Extended Coverage* and *Standard Vandalism and Malicious Mischief Forms* as promulgated by the New England Insurance Rating Association. Builders Risk Insurance shall, where applicable, include sprinkler leakage insurance.

.1 This project shall be considered New Construction and provisions of Paragraph 11.1.3 above shall apply.

11.1.4 Major Renovations and/or Additions Within Existing State Building: Coverage will be provided by the State by means of an addition to the existing State fire insurance schedule. The State shall notify the Maine Risk Management Division concerning the project, including the value of the work and the name of the General Contractor. Coverage shall include Contractors and all Subcontractors as their interest may appear. A Certificate of Insurance will be furnished to General Contractor, if requested. (Note: This coverage is limited to exposures protected under the basic State fire insurance policy which covers fire,

Phase II Renovations, State House

extended coverage, difference in conditions, vandalism and malicious mischief with a \$500.00 deductible. The deductible amount if the responsibility of Contractor.) Any other insurance desired by Contractor for exposure beyond that provided by the State policy will be the responsibility of Contractor.

.1 This Project shall be considered Major Renovations and Additions within Existing State Buildings and provisions of Paragraph 11.1.4 above shall apply.

11.1.5 Minor Renovations and/or Additions Within Existing State Buildings: While no specific addition to the fire schedule will be required, the State shall notify the Maine Risk Management Division concerning the project, including the name of General Contractor so that coverage may be provided as his or any Subcontractors' interest may appear. (Note: This coverage is limited to exposures protected under the basic State fire insurance policy which covers fire, extended coverage, difference in conditions, vandalism and malicious mischief with a \$500.00 deductible. The deductible amount is the responsibility of Contractor.) Any other insurance desired by Contractor for exposure beyond that provided by the State policy will be the responsibility of Contractor.

.1 This Project shall be considered Minor Renovations and Additions Within Existing State Buildings and provisions of Paragraph 11.1.5 above shall apply.

11.1.6 Certificates of Insurance: General Contractor shall furnish Architect with four (4) copies of a Certificate or Certificates of Insurance as provided in Paragraphs B & C above. Said Certificates of Insurance, in addition to the amount of coverage, shall carry a statement worded as follows: "In the event of cancellation or expiration of any of the foregoing policies, ten (10) days' written notice by the insurance company shall be mailed to Owner, Architect, and the Bureau of Public Improvements."

Paragraph 11.4 Performance Bond and Payment Bond: Add following Subparagraph:

11.4.3 A Performance Bond and Payment Bond each in the amount of 100 percent of the Contract Amount will be required of the Contractor, by a Surety Company qualified to do business in the state of construction and acceptable to Owner, the premiums for which are to be included in the Contract Sum and paid by Contractor.

11.4.3.1 Such bonds shall remain in effect for the entire guarantee/warranty period.

11.4.3.2 Bonding Company shall have a Best rating of at least A.

END

FORM FOR GENERAL BID  
FOR  
PHASE II RENOVATIONS  
STATE HOUSE  
Augusta, Maine

BIDDER: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To: State of Maine  
c/o Sarah Diamond  
Executive Director of Legislative Council  
State House Station 115  
Augusta, Maine 04333.

A. Having carefully examined the Contract Documents dated \_\_\_\_\_,  
*Bidder to fill in date above)*  
prepared by Moore/weinrich Architects, as well as the premises and  
conditions affecting the Work, we the undersigned propose to furnish all  
labor, Equipment, and Materials necessary for and reasonably incidental  
to the construction and completion of this Proposal for the Amount of:  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

B. Addenda: This Proposal includes the following Addenda to the Plans  
and Specifications:  
  
Addendum No. \_\_\_ dated \_\_\_\_\_, through and including Addendum  
No. \_\_\_ dated \_\_\_\_\_.

C. Cash Allowances: The above amount includes all Cash Allowances, as  
described under SECTION 01010 - SUMMARY OF WORK and elsewhere in the  
Contract Documents.

D. Unit Prices: The following prices for *ADDITIONAL* work if required by  
differing site conditions or other unforeseen conditions. It is  
understood that credits to the Owner for *REDUCED* amounts of such work  
will be 80-percent of the amounts quoted.

Item No.	Description	Unit	Amount
1.	General Excavation:		
	A. Unclassified:	CY	\$ _____
	B. Rock, Machine:	CY	\$ _____
	C. Rock, Hand:	CY	\$ _____

Phase II Renovations, State House

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>	<u>Amount</u>
2.	Trench Excavation:		
	A. Unclassified:	CY	\$ _____
	B. Rock, Machine:	CY	\$ _____
	C. Rock, Hand:	CY	\$ _____
3.	Excavation, Hand - General:	CY	\$ _____
4.	Removal of Excavation From Site:	CY	\$ _____
5.	Drainage Fill, Compacted, in Place	CY	\$ _____
6.	Structural Fill, Compacted, in Place:	CY	\$ _____
7.	Non-Structural Fill, Compacted, in Place:	CY	\$ _____
8.	Backfill due to changed circumstances, with on-site approved material, compacted:	CY	\$ _____
9.	Concrete forms, area of contact with concrete, including stripping and removal, finishing of concrete as specified:		
	A. Foundation Walls:	SF	\$ _____
	B. Footings:	SF	\$ _____
10.	Reinforcing Steel, in Place:	Lb	\$ _____
11.	Structural Concrete, in Place, not including forms, reinforcement or finishing:	CY	\$ _____
	A. Foundation Walls:	CY	\$ _____
	B. Footings:	CY	\$ _____

E. The undersigned agrees, if this Proposal is accepted, to sign a Contract and deliver it, along with the Contract Security and Affidavits of all Insurance specified within ten (10) business days after the date of notification of such acceptance, and as a guarantee thereof, herewith submits a Certified or Cashier's Check or Bid Bond as required.

F. The undersigned agrees, if awarded the Contract, to complete the work by the dates stated below.

Substantial Completion: December 14, 1988

Phase II Renovations, State House

- G. Performance and Payment Security: This Proposal includes the cost of a 100% Performance Bond and a 100% Payment Bond.

Signed \_\_\_\_\_

By \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Person to Contact \_\_\_\_\_

Telephone No. \_\_\_\_\_

NOTE: If Bidder is a Corporation, write State of Incorporation, and if a Partnership, give full names of all Partners.

END



**SECTION 01010 - SUMMARY OF WORK**

**1.01 PROJECT/WORK IDENTIFICATION:**

**A. General:**

1. Name of Project: Phase II Renovations, State House, Augusta, Maine.
2. Description: Renovations and alterations to existing office space, new Press Corps Facility.
3. Location: State House, Augusta, Maine.
4. Owner: State of Maine  
c/o Sarah Diamond  
Executive Director of Legislative Council  
State House Station 115  
Augusta, Maine 04333.
5. Architect: Moore/Weinrich Architects  
14 Maine Street, Suite 401  
Brunswick, ME 04011

**B. Contract Documents indicate the Work of Contract, and related provisions of Project which may include but are not necessarily limited to the following:**

1. Existing site conditions and restrictions.
2. Other work prior to Work of Contract.
3. Coordination with existing work.
4. Coordination with existing buildings and building programs.
5. New construction.
6. Work in existing construction, including connection of new construction thereto and connections to mechanical and electrical equipment.
7. Other work to be performed concurrently by Owner.
8. Other work subsequent to Work of Contract.
9. Requirements for occupation and use of existing buildings and adjacent site during construction.

**C. Summary by References: Work of Contract can be summarized by reference to the Contract Documents as enumerated in the "Table of Contents to Contract Documents," Documents issued subsequent to issuance of this Project Manual, and including but not necessarily limited to printed matter referenced by any of these. It is recognized that Work of Contract is also unavoidably affected or influenced by governing**



regulations, natural phenomenon including weather conditions, and other forces outside the Contract Documents.

D. Abbreviated Written Summary: Briefly, and without force and effect upon Contract Documents, Work of Project can be summarized as follows:

1. Additions to existing structure.
2. Selective demolition and removals.
  - a. Include removal and salvage of certain material for Owner's use of as indicated.
3. Remove existing lighting, wiring, devices, other electrical work as indicated and required.
4. Construct new mezzanine structure and stairway as indicated, including new structural steel cut into and bearing on existing masonry walls.
5. Renovations to existing interior spaces as indicated.
6. Cutting, fitting, patching and extending of new and existing work to match existing adjacent work to remain.
7. New wall, floor, and ceiling finishes as indicated and required, including refinishing of all existing work disturbed as result of work under the Contract.
8. Alterations to the existing mechanical systems, and new mechanical work as indicated.
9. Alterations to the existing electrical systems, and new electrical work as indicated.
10. Excavation, backfill, landscaping and other site improvements as indicated.
11. Protection of existing work to remain, restoration of existing work damaged through work of Contract.

E. Work Not Included: Following work is not part of this Contract, except as otherwise indicated:

1. Asbestos removal from existing structures has been previously contracted for and is specifically excluded from this Contract. If any asbestos is encountered notify Architect immediately and do not proceed with further work involving the asbestos.
2. Removal/relocation of existing telephone/computer/telex equipment and wiring, new like material in new Press Corps facility; except as otherwise indicated.

- a. Existing equipment, wiring, cabling and the like remaining following relocation of the Press Corps Facilities to the new facility shall become property of Contractor and removed from site and legally disposed of.
3. Movable equipment and loose furnishings, except as otherwise indicated.
4. Work indicated on Drawings as Not in Contract (N.I.C. or NIC).

1.02 HISTORICAL SIGNIFICANCE:

- A. The Maine State House is of historical significance. No work shall be performed that will affect its appearance, other than the Work required under the Contract, without advance approval in writing by Owner.
- B. To maximum extent feasible the original design shall be maintained.
  1. In particular special care shall be taken to obtain color matches as approved by Architect in advance of all wood, stain, paint, plaster and similar materials.
  2. Mechanical cleaning devices, such as sandblasting, that irreversibly damage the historical fabric of the structure, will not be permitted.
- C. Take particular care with fire prevention, and cleaning methods used on existing construction.

1.03 USE OF PREMISES:

- A. Restrictions on Site Usage: The Existing State House including adjacent grounds must remain in use at all times, with as little interference and annoyance from Work of this Contract as feasible.
  1. Perform no work that will prevent of building or grounds at any time.
  2. Perform work requiring limitation of use or access in any way only as necessary for performance of work under this Contract; and then only with a minimum of 72 hours advance notice to and approval by Owner.
  3. Confine exterior construction activities to within the fenced area as specified under SECTION 01500, and to areas reasonably necessary for providing materials access for new mezzanine while such work is in progress, while such work is in progress; except as otherwise necessary for performance of the Work of this Contract.
  4. Confine interior construction activities to within the areas indicated for renovation, while such work is in progress; except as otherwise necessary for performance of the Work of this Contract.
  5. Perform work and utilize outside of spaces assigned to Contractor only as reasonably necessary for performance of the Work of the

Contract, and with a minimum of interference to the public and building occupants.

- a. In particular, ascertain that all materials and labor are on hand and all trades are ready and able to proceed and to complete their work on a "get in and get out" basis once a starting date is set.
  - b. Use corridors, roads, walks and other public ways only as necessary to secure access of workers, materials and equipment to assigned work areas.
  - c. Coordinate all work necessary outside of assigned work areas with Owner's maintenance and security staffs.
  - d. Except in cases of emergency notify Owner's security and maintenance staffs a minimum of 48 hours in advance of performing any necessary work outside of the assigned work areas; coordinate all such work with such staffs.
  - e. Do not allow corridors or other public accesses to become encumbered with building materials or equipment. Where necessary provide removable temporary barricades of rope on weighted stanchions or other approved means to separate work areas. *Do not nail or otherwise secure temporary materials to existing surfaces unless specifically approved in advance by Owner.*
  - f. Use of areas outside of Contractor's assigned spaces for storage of materials or equipment, or uses which would impair use of the building and grounds, will not be acceptable.
6. All public and employee accesses must be maintained at all times. Storage, and other operations must be confined to assigned areas.
    - a. In no event may required egresses be blocked off while existing structure is occupied.
  7. Comply with Owner's fire and security regulations.
  8. Do not allow any visual or other nuisances on the site.
- B. Work Outside of Normal Working Hours: Where work outside of normal working hours is required notify Owner in advance and arrange for security check-in.
1. For work performed at other than normal hours at request of Owner, Owner will pay labor premium costs only.
  2. Contractor shall pay all labor premiums and other costs for work performed during off hours for Contractor's convenience.

1.04 SCHEDULING AND PHASING:

- A. Conduct Work of this Contract so as to have the Work of the Project Substantially Completed on or before the dates stipulated in the Contract.
  - 1. Substantial Completion is hereby defined to mean a stage of completion sufficient for Owner to have beneficial use of the Work of this Contract for the purpose intended, less only minor corrections and repairs that can be performed without undue annoyance to staff and visitors which shall be documented on the "punch list" as described under SECTION 01700 - PROJECT CLOSEOUT. It shall also include major final cleaning required under the Contract, removal of all surplus equipment and material not required for completion or remaining work, and the placement of all remaining materials and equipment in convenient locations as approved by Owner.
  - 2. Refer to Conditions of the Contract for further description of Substantial Completion.
  - 3. Refer also to SECTION 01700 - PROJECT CLOSEOUT for prerequisites and other requirements pertaining to substantial completion.
- B. Except as otherwise indicated, or approved by Owner, conduct work of Contract in phases as follows:
  - 1. Construct new Press Corps Facility to Substantial Completion, ready for intended use.
  - 2. Allow Press Corps equipment (computers, telephones, wiring and the like) to be installed in new facility before commencing work in existing press facilities.
  - 3. Perform other Work of Contract concurrently as approved by Owner and in compliance with Construction Progress Schedule.

1.05 COORDINATION:

- A. The Work of this Contract includes coordination of entire Work of Project, including preparation of general coordination drawings/diagrams/schedules, and control of site utilization; from the beginning of activity, through the Project close-out and warranty periods.
- B. Refer to SECTION 01210 - PROCEDURES, PERFORMANCES, COORDINATION for additional requirements pertaining to coordination.

1.06 CONFLICTS:

- A. Contractor shall notify Architect in writing of any real or apparent conflicts in the Contract Documents.
- B. Conflicts that arise during construction shall be resolved by Architect. If two or more solutions are indicated in the Contract Documents, Contractor shall assume cost of the more expensive solution.

1.07 PERFORMANCE REQUIREMENTS FOR COMPLETED WORK:

- A. The Contract Documents indicate work required. Compliance with governing regulations is intended and required for the completed Work and for Owner's utilization.

1.08 ALLOWANCES:

- A. Coordinate Allowance work with related work, to ensure that each selection is completely integrated and interfaced with related work. Requirements for the work of Allowances are shown and specified, to extent established by date of Contract Documents; additional requirements are established by Change Order. At earliest possible date, advise Architect of date each final Allowance selection must be completed. Submit proposals for Allowance work as directed, and in the manner specified for Change Orders. Indicate quantities, unit costs, total purchase amounts, taxes, delivery charges and trade discounts. Where requested, furnish detailed breakdown of quantity survey.

B. Schedule of Cash Allowances:

- 1. Unit Pavers, as specified under SECTION 02520: \$3,000.00
- 2. Carpet, as specified under SECTION 09680 \$12,250.00
- 3. Graphics, as specified under SECTION 10440: \$1,000.00.

1.09 ALTERNATES:

- A. There are no Bidding Alternates for this Project.

END OF SECTION

SECTION 01046 - REMOVALS/ALTERATIONS/CUTTING/PATCHING; GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE:

- A. Removals as indicated on Drawings, certain other removal work:  
SECTION 02052 - SELECTIVE REMOVALS AND DEMOLITION.

1.02 GENERAL:

- A. Note that Work of this Project involves renovations and alterations to existing structures, and all Work shall be conducted accordingly. Existing dimensions and conditions must be verified in the field prior to performing any special fabrications.
- B. The intent of this SECTION is to describe, in general, *procedures* for performance of minor alterations, minor removals, and cutting and patching, generally in conjunction with new work indicated. Removal procedures specified under SECTION 02052 are applicable to this SECTION 01046 as well; except as specified otherwise herein.
  - 1. Cutting patching of new work, if and as required, is included under this SECTION 01046.
  - 2. Where conflicts exist between the requirements specified herein and those of the Technical Trade Sections, those of the Trade Sections shall prevail.

1.03 RELOCATION:

- A. Remove carefully, all items indicated on the Drawings to be relocated or salvaged for Owner's use.
- B. All materials, equipment, or other items to be relocated or salvages shall be carefully removed, disassembled if required; adequately supported and protected during the removal and hauling operations; carefully transported to the new location and properly reinstalled. Appropriate disconnections of services shall be made carefully prior to removal.
- C. Contractor shall be responsible for all cutting, fitting and patching of the work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon, or reasonably implied by, Drawings and Specifications for completed structure, and shall make good after them as Architect may direct.
- D. Expense caused by defective or ill-timed work shall be borne by party responsible.
- E. Whenever an item is indicated to be reused and/or relocated, and, in opinion of Architect, the item is unsuitable for reuse through no fault of Contractor, the item will be replaced by another salvaged item at no additional cost to Contractor. If no salvaged item is available, Owner

will supply the item to Contractor, and Contractor shall install the item at no additional cost to Owner.

- F. Salvage sufficient quantities of cut or removed material to replace damaged work of existing construction, when the material is not readily obtainable on the current market.
  - 1. Use particular care in the removal and salvage of Owner's items which are identified on the Drawings or within the Specifications to be salvaged. The disposition of such Owner's items shall be as directed by Architect.
  - 2. Store salvaged items in a dry, secure place on site until removed by Owner's own forces.
  - 3. Items not required for use in repair of existing work, or noted for Owner's use, shall become property of Contractor unless otherwise indicated.
  - 4. Do not incorporate salvaged or used material in new construction except as specifically indicated or with permission of Architect.

1.04 REMOVALS AND CUTTING:

- A. Removals of existing work not indicated on the Drawing and/or covered within the scope of SECTION 02052, but which removal is indicated elsewhere or is required for proper completion of the Work, is included under this Section. Such removals include, but are not limited to, following:
  - 1. Fine cutting and removals required after completion of removal work indicated on the Drawings and/or specified under SECTION 02052.
  - 2. Fine cutting and removal work following completion of all other removals.
  - 3. All other removals required for completion of work under this Contract.
- B. Perform removal and cutting work to remove the minimum necessary in order to minimize patching and replacement, and in a manner to avoid damage to adjacent work.
  - 1. Cut finish surfaces such as masonry, granite, tile, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division.
- C. Protect existing finishes, equipment and adjacent work which are scheduled to remain, from damage.
  - 1. Protect existing and new work from weather and extremes of temperature. Provide weather protection, waterproofing, heat and humidity control as needed to prevent damage to remaining existing work and to new work.

2. Provide temporary lintels, shoring, bracing, other protection as required to maintain structural integrity.
3. Comply with all other requirements of SECTION 02052 and SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS.

1.05 PATCHING, EXTENDING AND MATCHING:

- A. Patch and refinish existing work to match adjacent existing work in quality and appearance in all locations as required, including but not limited to:
  1. Locations indicated on Drawings.
  2. Locations where existing items and construction have been removed under this Contract.
  3. Locations where existing work has been removed or damaged in order to install new work under this Contract.
  4. Locations where new work has been installed under this Contract.
- B. Provide the same products or types of construction as that in existing structure, as needed to patch, extend or match the existing work.
- C. Generally Contract Documents will not define products or standards of workmanship present in existing construction; Contractor shall determine the products by inspection and any necessary testing, and the workmanship by use of the existing as a sample for comparison.
- D. The presence of a product, finish or type of construction requires that patching, extending or matching shall be performed as necessary to make the Work complete and consistent to identical standards of quality.
- E. Patch and extend existing work using skilled mechanics who are capable of matching the existing quality of workmanship. The quality of patched or extended work shall be not less than that specified for new work.
  1. Provide adequate support or substrate prior to patching the finish.
  2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.
  3. When existing surface finish cannot be matched, notify Architect for resolution. Resolution may include refinishing the entire surface to the nearest intersections.
- F. Where partitions are removed, and new fill or infill construction is not indicated, patch floors, walls, and ceilings with finish materials to match existing. Where removal of partitions results in adjacent spaces becoming one, rework floors and ceilings to provide smooth planes without breaks, steps, or bulkheads. Where extreme change of plane of 1/2 in. or more occurs, request instructions from Architect as to method of making the transition.



- G. Patch or replace any portion of an existing finished surface which is found to be damaged, lifted, discolored, or shows other imperfections, with matching material.
  - H. When new work abuts or finishes flush with existing work, make the transition as smooth and workmanlike as possible. Patched work shall match existing adjacent work in texture and appearance so that the patch or transition is invisible to the naked eye at a distance of five feet.
  - I. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to the finished surface and as approved by Architect.
- 1.06 ASBESTOS PRODUCTS:
- A. Should existing asbestos containing materials be encountered during any removal, alteration, cutting or patching work, notify Architect immediately and do not proceed with further work involving the asbestos.
  - B. Removal of asbestos has been previously contracted for and is specifically excluded from this Contract.

END OF SECTION

SECTION 01060 - DEFINITIONS AND STANDARDS

- 1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this Section.
- 1.02 DEFINITIONS:
- A. General Explanation: A substantial amount of Specification language constitutes definitions for terms found in other Contract Documents, including Drawings which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in contract documents are defined generally in this article. Definitions and explanations of this Section are not necessarily either complete or exclusive, but are general for the work to extent not stated more explicitly in other provision of Contract Documents.
  - B. General Requirements: The provisions or requirements of Division- 1 Sections. General Requirements apply to entire work of Contract and, where so indicated, to other elements which are included in project.
  - C. Equivalent, Equal, Approved Equal: The terms "equal" and "equivalent" are synonymous and shall mean the "equivalent" as approved by Architect in advance of actual installation.
  - D. Indicated: The term "Indicated" is a cross-reference to graphics, notes or Schedules on Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
  - E. Directed, Requested, etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Architect," "requested by Architect," etc. However, no such implied meaning will be interpreted to extend Architect's responsibility into Contractor's area of construction supervision.
  - F. Approve: Where used in conjunction with Architect's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Architect's responsibilities and duties as specified in General and Supplementary Conditions. In no case will "approval" by Architect be interpreted as a release of Contractor from responsibilities to fulfill requirements of Contract Documents.
  - G. Project Site: The space available to Contractor for performance of the work, either exclusively or in conjunction with other performing other work as part of the Project. The extent of Project Site is shown on

Drawings, and may or may not be identical with description of land upon which project is to be built.

H. Furnish, Install, Provide:

1. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to Project Site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
2. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at Project Site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing protecting, cleaning and similar operations, as applicable in each instance.
3. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

I. Installer: The entity (person or firm) engaged by Contractor or its subcontractor or sub-subcontractor for performance of a particular unit of work at Project Site, including installation, erection, application and similar required operations. It is a general requirement that such entities (Installers) be expert in operations they are engaged to perform.

J. Testing Laboratory: An independent entity engaged to perform specific inspections or tests of the work, either at Project Site or elsewhere; and to report and (if required) interpret results of those inspections or tests.

1.03 CODES AND STANDARDS:

A. General: Comply with current edition of all local, State and national codes applicable to the proposed construction, including but not by way of limitation restricted to the following:

1. OSHA: National Occupational Safety and Health Act.
2. BOCA: Building Officials and Code Administrators "Basic Building Code."
3. Associated General Contractors of America: Manual of Accident Prevention in Construction.
4. Underwriters Laboratories: National Electrical Code.
5. NFPA 101: National Fire Protection Agency "Life Safety Code."

1.04 INDUSTRY STANDARDS:

A. General Applicability of Standards: Applicable standards of construction industry have same force and effect (and are made a part of Contract

Documents by reference) as if copied directly into Contract Documents, or as if published copies were bound herewith.

1. Referenced standards (referenced directly in Contract Documents or by governing regulations) have precedence over non-referenced standards which are recognized in industry for applicability to work.
  2. Non-referenced standards recognized in the construction industry are hereby defined, except as otherwise limited in Contract Documents, to have direct applicability to the work, and will be so enforced for performance of the work.
- B. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.
- C. Copies of Standards: Provide where needed for proper performance of the work; obtain directly from publication sources.
- D. Abbreviations and Names: Where acronyms or abbreviations are used in Specifications or other Contract Documents they are defined to mean the industry recognized name of trade association, standards generating organization, governing authority or other applicable to context of text provision. Refer to "Encyclopedia of Associations," published by Gale Research Co., available in large libraries.
1. The following acronyms or abbreviations (not all of which are listed in the Contract Documents), are defined to mean the associated names. Both names and addresses are subject to change, and are believed to be, but are not assured to be, reasonably accurate and up-to-date as of date of Contract Documents:

AA	Aluminum Association 818 Connecticut Ave. NW Washington, DC 20006	(202) 862-5100
AABC	Associated Air Balance Council 1518 K Street NW, Suite 503 Washington, DC 20005	(202) 737-0202
AAMA	American Architectural Manufacturer's Association 2700 River Road, Suite 118 Des Plaines, IL 60018	(312) 699-7310
AAN	American Association of Nurserymen 1250 Eye Street NW, Suite 500 Washington, DC 20005	(202) 789-2900
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, Suite 225 Washington, DC 20001	(202) 624-5800

Phase II Renovations, State House

AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 Research Triangle Park, NC 27709	(919) 549-8141
ACI	American Concrete Institute P.O. Box 19150 Detroit, MI 48219	(313) 532-2600
ACIL	American Council of Independent Laboratories 1725 K Street NW Washington, DC 20006	(202) 887-5872
ACPA	American Concrete Pipe Association 8320 Old Courthouse Road Vienna, VA 22180	(703) 821-1990
ADC	Air Diffusion Council 230 N. Michigan Ave., Suite 1200 Chicago, IL 60601	(312) 372-9800
AGA	American Gas Association 1515 Wilson Blvd. Arlington, VA 22209	(703) 841-8400
AHA	American Hardboard Association 887-B Wilmette Road Palatine, IL 60067	(312) 934-8800
AHAM	Association of Home Appliance Manufacturers 20 N. Wacker Drive Chicago, IL 60606	(312) 984-5800
AI	Asphalt Institute Asphalt Institute Building College Park, MD 20740	(301) 277-4258
AIA	American Institute of Architects 1735 New York Ave. NW Washington, DC 20006	(202) 626-7300
A.I.A.	American Insurance Association 85 John Street New York, NY 10038	(212) 669-0400
AIHA	American Industrial Hygiene Association 475 Wolf Ledges Parkway Akron, OH 44311	(216) 762-7294

Phase II Renovations, State House

AISC	American Institute of Steel Construction 400 N. Michigan Ave., 8th Floor Chicago, IL 60611	(312) 670-2400
AISI	American Iron and Steel Institute 1000 Sixteenth Street NW Washington, DC 20036	(202) 452-7100
AITC	American Institute of Timber Construction 333 W. Hampden Ave. Englewood, CO 80110	(303) 761-3212
ALI	Associated Laboratories Eight Brush Street Pontiac, MI 48053	(313) 335-6114
ALSC	American Lumber Standards Committee P.O. Box 210 Germantown, MD 20874	(301) 972-1700
AMCA	Air Movement and Control Association 30 W. University Drive Arlington Heights, IL 60004	(312) 394-0150
ANSI	American National Standards Institute 1430 Broadway New York, NY 10018	(212) 354-3300
APA	American Plywood Association P.O. Box 11700 Tacoma, WA 98411	(206) 565-6600
A.P.A.	American Parquet Association 1650 Union National Plaza Little Rock, AR 72201	(501) 375-5561
API	American Petroleum Institute 1220 L Street NW Washington, DC 20005	(202) 682-8000
ARI	Air Conditioning and Refrigeration Institute 1501 Wilson Blvd. Arlington, VA 22209	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association 6288 Montrose Road Rockville, MD 20852	(301) 231-9050
ASA	Acoustical Society of America 335 East 45th Street New York, NY 10017	(516) 349-7800

Phase II Renovations, State House

ASC	Adhesive and Sealant Council 1500 Wilson Blvd., Suite 515 Arlington, VA 22209	(703) 841-1112
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle NE Atlanta, GA 30329	(404) 636-8400
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017	(212) 705-7722
ASPE	American Society of Plumbing Engineers 3617 Thousand Oaks Blvd., Suite 210 Westlake, CA 91362	(805) 495-7120
ASSE	American Society of Sanitary Engineering P.O. Box 40362 Bay Village, OH 44140	(216) 835-3040
ASTM	ASTM 655 Fifteenth Street NW Washington, DC 20005	(202) 639-4025
AWI	Architectural Woodwork Institute 2310 S. Walter Reed Drive Arlington, VA 22206	(703) 671-9100
AWPA	American Wood Preservers' Association P.O. Box 849 Stevensville, MD 21666	(301) 643-4163
AWPB	American Wood Preservers Bureau P.O. Box 6058 2772 S. Randolph Street Arlington, VA 22206	(703) 931-8180
AWS	American Welding Society P.O. Box 351040 550 Le Jeune Road NW Miami, FL 33135	(305) 443-9353
AWWA	American Water Works Association 6666 W. Quincy Ave. Denver, CO 80235	(303) 794-7711
BANC	Brick Association of North Carolina P.O. Box 13290 Greensboro, NC 27415	(919) 273-5566

BHMA	Builders' Hardware Manufacturers Association 60 East 42nd St., Room 511 New York, NY 10165	(212) 682-8142
BIA	Brick Institute of America 11490 Commerce Park Drive, Suite 300 Reston, VA 22091	(703) 620-0010
BIFMA	Business and Institutional Furniture Manufacturer's Association 2335 Burton Street SE Grand Rapids, MI 49506	(616) 243-1681
CAUS	Color Association of the United States 343 Lexington Avenue New York, NY 10016	(212) 683-9531
CAGI	Compressed Air and Gas Institute c/o Thomas Associates, Inc. 1230 Keith Building Cleveland, OH 44115	(216) 241-7333
CBM	Certified Ballast Manufacturers Association Hanna Building, Suite 772 1422 Euclid Avenue Cleveland, OH 44115	(216) 241-0711
CDA	Copper Development Association Box 1840, Greenwich Office Park 2 Greenwich, CT 06836	(203) 625-8210
CGA	Compressed Gas Association 1235 Jefferson Davis Highway Arlington, VA 22202	(703) 979-0900
CISPI	Cast Iron Soil Pipe Institute 1499 Chain Bridge Road, Suite 203 McLean, VA 22101	(703) 827-9177
CLPA	California Lathing and Plastering Association 25332 Narbonne, Suite 170 Lomita, CA 90717	(213) 539-6080
CRI	Carpet and Rug Institute Box 2048 Dalton, GA 30720	(404) 278-3176
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60195	(312) 490-1700



Phase II Renovations, State House

CTI	Ceramic Tile Institute of America 700 North Virgil Avenue Los Angeles, CA 90029	(213) 660-1911
DHI	Door and Hardware Institute 7711 Old Springhouse Road McLean, VA 22102	(703) 556-3990
DLPA	Decorative Laminate Products Association (Formerly the National Association of Plastic Fabricators) 600 South Federal Street, Suite 400 Chicago, IL 60605	(312) 345-1600
ECSA	Exchange Carriers Standards Association Four Century Drive, 3rd Floor Parsippany, NJ 07054	(201) 538-6111
EIA	Electronic Industries Association 2001 Eye Street NW Washington, DC 20006	(202) 457-4900
EIMA	Exterior Insulation Manufacturers Association P.O. Box 75037 Washington, DC 20013	(202) 783-6582
ETL	ETL Testing Laboratories, Inc. P.O. Box 2040 Route 11, Industrial Park Cortland, NY 13045	(607) 753-6711
FCI	Fluid Controls Institute P.O. Box 9036 Morristown, NJ 07960	(201) 829-0990
FGMA	Flat Glass Marketing Association White Lakes Professional Building 3310 Harrison Topeka, KS 66611	(913) 266-7013
FM	Factory Mutual Engineering and Research 1151 Boston-Providence Turnpike Norwood, MA 02062	(617) 762-4300
FTI	Facing Tile Institute c/o Box 8880 Canton, OH 44711	(216) 488-1211
GA	Gypsum Association 1603 Orrington Ave. Evanston, IL 60201	(312) 491-1744

HEI	Heat Exchange Institute c/o Thomas Associates, Inc. 1230 Keith Building Cleveland, OH 44115	(216) 241-7333
HI	Hydronics Institute P.O. Box 218 35 Russo Place Berkeley Heights, NJ 07922	(201) 464-8200
HMA	Hardwood Manufacturers Association 805 Sterick Building Memphis, TN 38103	(901) 525-8221
ICEA	Insulated Cable Engineers Association, Inc. P.O. Box P South Yarmouth, MA 02664	(617) 394-4424
IEC	International Electrotechnical Commission (Available from ANSI) 655 Fifteenth Street NW, Suite 300 Washington, DC 20015	(202) 639-4090
IEEE	Institute of Electrical and Electronic Engineers 345 E. 47th Street New York, NY 10017	(212) 705-7900
IESNA	Illuminating Engineering Society of North America 345 E. 47th Street New York, NY 10017	(212) 705-7926
IGCC	Insulating Glass Certification Council Route 11, Industrial Park Cortland, NY 13045	(607) 753-6711
ILI	Indiana Limestone Institute of America Stone City Bank Building, Suite 400 Bedford, IN 47421	(812) 275-4426
IMSA	International Municipal Signal Association P.O. Box 8249 Forth Worth, TX 76112	(817) 429-8638
IRI	Industrial Risk Insurers 85 Woodland Street Hartford, CT 06102	(203) 520-7300
ISA	Instrument Society of America P.O. Box 12277; 67 Alexander Drive Research Triangle Park, NC 27709	(919) 549-8411

Phase II Renovations, State House

LPI	Lightning Protection Institute P.O. Box 458 Harvard, IL 60033	(815) 943-7211
MBMA	Metal Building Manufacturers Association 1230 Keith Building Cleveland, OH 44115	(216) 241-7333
MCAA	Mechanical Contractors Association of America 5410 Grosvenor Lane; Suite 120 Bethesda, MD 20814	(301) 897-0770
MIA	Marble Institute of America 33505 State Street Farmington, MI 48024	(313) 746-5558
ML/SFA	Metal Lath/Steel Framing Association 600 South Federal Street, Suite 400 Chicago, IL 60605	(312) 346-1600
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park Street NE Vienna, VA 22180	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers 221 N. LaSalle Street Chicago, IL 60601	(312) 346-1600
NAPA	National Asphalt Pavement Association Calvert Building, Suite 620 6811 Kenilworth Avenue Riverdale, MD 20737	(301) 779-4880
NAPF	National Association of Plastic Fabricators (Now DLPA)	
NBGQA	National Building Granite Quarries Association c/o H.E. Fletcher Co. West Chelmsford, MA 08163	(617) 251-4031
NBHA	National Builders Hardware Association (Now DHI)	
NCMA	National Concrete Masonry Association P.O. Box 781 Herndon, VA 22070	(301) 435-4900

NCRPM	National Council on Radiation Protection and Measurement 7910 Woodmont Avenue, Suite 1016 Bethesda, MD 20814	(301) 657-2652
NEC	National Electric Code (by NFPA)	
NECA	National Electrical Contractors Association 7315 Wisconsin Ave. Bethesda, MD 20814	(301) 657-3110
NEII	National Elevator Industry, Inc. 630 Third Avenue New York, NY 10016	(212) 986-1545
NEMA	National Electrical Manufacturers Association 2101 L Street NW, Suite 300 Washington, DC 20037	(202) 457-8400
NFPA	National Fire Protection Association Batterymarch Park Quincy, MA 02269	(617) 770-3000
N.F.P.A.	National Forest Products Association 1250 Connecticut Ave. NW Washington, DC 20036	(202) 463-2700
NHLA	National Hardwood Lumber Association P.O. Box 34518 Memphis, TN 38184	(901) 377-1818
NKCA	National Kitchen Cabinet Association P.O. Box 6830 Falls Church, VA 22046	(703) 237-7580
NOFMA	National Oak Flooring Manufacturers Association 8 North Third Street 804 Sterick Building, Suite 810 Memphis, TN 38103	(901) 526-5016
NPA	National Particleboard Association 18928 Premiere Court Gaithersburg, MD 20879	(301) 670-0604
NPCA	National Paint and Coatings Association 1500 Rhode Island Avenue NW Washington, DC 20005	(202) 462-6272

Phase II Renovations, State House

NRCA	National Roofing Contractors Association 8600 Bryn Mawr Avenue Chicago, IL 60631	(312) 693-0700
NSF	National Sanitation Foundation P.O. Box 1468; 3475 Plymouth Road Ann Arbor, MI 48106	(313) 769-8010
NSSEA	National School Supply and Equipment Association 2020 Fourteenth Street North, Suite 400 Arlington, VA 22201	(703) 524-8819
NTMA	National Terrazzo and Mosaic Association 3166 Des Plaines Ave. Suite 132 Des Plaines, IL 60018	(312) 635-7744
NWMA	National Woodwork Manufacturers Association (Now NWWDA)	
NWWDA	National Wood Window and Door Association (Formerly NWMA) 205 West Touchy Avenue Park Ridge, IL 60068	(312) 823-6747
PCI	Prestressed Concrete Institute 201 N. Wells Street Chicago, IL 60606	(312) 346-4071
PDI	Plumbing and Drainage Institute (c/o Austin O. Roche, Jr.) 5342 Boulevard Pl. Indianapolis, IN 46208	(317) 251-5298
PEI	Porcelain Enamel Institute 1111 Nineteenth Street Arlington, VA 22209	(703) 527-5257
RFCI	Resilient Floor Covering Institute 966 Hungerford Drive, Suite 12-B Rockville, MD 20805	(301) 340-8580
RIS	Redwood Inspection Service 591 Redwood Highway, Suite 3100 Mill Valley, CA 94941	(415) 381-1304
RMA	Rubber Manufacturers Association 1400 K Street NW Washington DC 20005	(202) 682-4800
SAMA	Scientific Apparatus Makers Association 1101 Sixteenth Street NW Washington, DC 20036	(202) 223-1360

SDI	Steel Deck Institute P.O. Box 9506 Canton, OH 44711	(216) 493-7886
S.D.I.	Steel Door Institute (c/o A.P. Wherry and Associates, Inc.) 712 Lakewood Center North 14600 Detroit Avenue Cleveland, OH 44107	(216) 226-7700
SGCC	Safety Glazing Certification Council Route 11, Industrial Park Cortland, NY 13045	(607) 753-6711
SHLMA	Southern Hardwood Lumber Manufacturers Association (Now HMA)	
SIGMA	Sealed Insulating Glass Manufacturers Association 111 E. Wacker Drive Chicago, IL 60601	(312) 644-6610
SJI	Steel Joist Institute 1205 48th Street North, Suite A Myrtle Beach, SC 29577	(803) 449-0487
SMACNA	Sheet Metal and Air Conditioning Contractors National Association P.O. Box 70 Merrifield, VA 22116	(703) 790-9890
SPIB	Southern Pine Inspection Bureau 4709 Scenic Highway Pensacola, FL 32504	(904) 434-2611
SPRI	Single Ply Roofing Institute 1800 Pickwick Avenue. Glenview, IL 60025	(312) 724-7700
SSPC	Steel Structures Painting Council 4400 Fifth Avenue Pittsburgh, PA 15213	(412) 578-3327
SWI	Steel Window Institute (c/o Thomas Associates, Inc.) 1230 Keith Building Cleveland, OH 44115	(216) 241-7333
TCA	Tile Council of America P.O. Box 326 Princeton, NJ 08542	(609) 921-7050

TIMA	Thermal Insulation Manufacturers Association 7 Kirby Plaza Mt. Kisco, NY 10549	(914) 241-2284
TPI	Truss Plate Institute 583 D'Onofrio Drive, Suite 200 Madison, WI 53719	(608) 833-5900
UL	Underwriters Laboratories 333 Pfingsten Road Northbrook, IL 60062	(312) 272-8800
WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97223	(503) 639-0651
WCMA	Wall Covering Manufacturers Association 66 Morris Avenue Springfield, NJ 07081	(201) 379-1100
WIC	Woodwork Institute of California P.O. Box 11428 Fresno, CA 93773	(209) 233-9035
WRI	Wire Reinforcement Institute 8361 A Greensboro Drive McLean, VA 22102	(703) 790-9790
WSC	Water Systems Council 221 North LaSalle St. Chicago, IL 60601	(312) 346-1600
WSFI	Wood and Synthetic Flooring Institute 4415 West Harrison Street, Suite 242 C Hillside, IL 60162	(312) 449-2933
WHPA	Western Wood Products Association 1500 Yeon Building Portland, OR 97204	(503) 224-3930
W.W.P.A.	Woven Wire Products Association 2515 N. Nordica Ave. Chicago, IL 60635	(312) 637-1359

E. Federal Government Agencies: Names and titles of federal government standard or specification producing agencies are frequently abbreviated. The following acronyms or abbreviations (not all or which are listed in the Contract Documents) indicate names of standard or specification producing agencies of the federal government. Names and addresses are

subject to change but are believed to be, but are not assured to be, reasonably accurate and up-to-date as of the date of the contract documents.

CE	Corps of Engineers (US Department of the Army) Chief of Engineers-Referral Washington, DC 20314	(202) 693-6456
CFR	Code of Federal Regulations Available from the Government Printing Office North Capitol Street between G and H Streets NW Washington, DC 20402 (Material is usually first published in the Federal Register)	(202) 783-3238
CPSC	Consumer Product Safety Commission 1111 Eighteenth Street NW Washington, DC 20207	(202) 634-7700
CS	Commercial Standard (U.S. Department of Commerce) Government Printing Office Washington, DC 20402	(202) 377-2000
DOC	Department of Commerce 14th Street and Constitution Avenue NW Washington, DC 20230	(202) 377-2000
DOT	Department of Transportation 400 Seventh Street SW Washington, DC 20590	(202) 426-4000
EPA	Environmental Protection Agency 401 M Street SW Washington, DC 20460	(202) 829-3535
FAA	Federal Aviation Administration (U.S. Department of Transportation) 800 Independence Avenue SW Washington, DC 20590	(202) 426-4000
FCC	Federal Communications Commission 1919 M Street NW Washington, DC 20554	(202) 632-7000
FHA	Federal Housing Administration (U.S. Department of Housing and Urban Development) 451 Seventh Street SW Washington, DC 20201	(202) 755-5995



FS Federal Specification  
 (General Services Administration)  
 Specifications Unit (WFSIS)  
 7th and D Streets SW  
 Washington, DC 20406 (202) 472-2205  
 or 472-2140

GSA General Services Administration  
 F Street and 18th Street NW  
 Washington, DC 20405 (202) 655-4000

MIL Military Standardization Documents  
 (U.S. Department of Defense)  
 Naval Publications and Forms Center  
 5801 Tabor Avenue  
 Philadelphia, PA 19120

NBS National Bureau of Standards  
 (U.S. Department of Commerce)  
 Gaithersburg, MD 20234 (301) 921-1000

OSHA Occupational Safety and Health Administration  
 (U.S. Department of Labor)  
 Government Printing Office  
 Washington, DC 20402 (202) 783-3238

PS Product Standard of NBS  
 (U.S. Department of Commerce)  
 Government Printing Office  
 Washington, DC 20402 (202) 783-3238

REA Rural Electrification Administration  
 (U.S. Department of Agriculture)  
 14th Street and Independence Avenue SW  
 Washington, DC 20250 (202) 382-1255

USDA U.S. Department of Agriculture  
 Independence Avenue between  
 12th and 14th Streets SW  
 Washington, DC 20250 (202) 447-4929

USPS U.S. Postal Service  
 475 L'Enfant Plaza SW  
 Washington, DC 20260 (202) 245-4000

F. Duplicate Abbreviation or Acronyms: Where more than one organization is listed for a particular abbreviation (such as SDI for Steel Deck Institute and Steel Door Institute), the organization intended shall be determined by the subject matter or context of the particular Specification Section or other Contract Documents where the abbreviation or acronym appears. The appearance or omission of periods in abbreviations or acronyms shall be of no significance. In the event of any confusion, contact Architect for clarification.

1.05 GOVERNING REGULATIONS/AUTHORITIES:

- A. General: The procedure followed by Architect has been to contact governing authorities where necessary to obtain information needed for the purpose of preparing contract documents; recognizing that such information may or may not be of significance in relation to Contractor's responsibilities for performing the work. Contact governing authorities directly for necessary information and decisions having a bearing on the performance of the work.

1.06 SUBMITTALS:

- A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

END OF SECTION



**SECTION 01155 - REPORTS, MEETINGS, PAYMENTS**

**1.01 PROGRESS SCHEDULE AND REPORTS:**

- A. General: Within 15 days of date established for "Commencement of Work", submit a comprehensive bar-chart type progress schedule indicating a time bar for each significant category or unit of work to be performed at the site. Arrange schedule to indicate required sequencing of units, and to show time allowances for submittals inspections and similar time margins.
1. Show critical submittal dates related to each time bar, or prepare separate coordinated listing of critical submittal dates.
  2. Include multiple time bars to show each significant separate location for each category of work.
    - a. Include as separate items new Press Corps Facility, renovation work in existing Press Corps facility, new mezzanine, and remaining work.
  3. Show phases of work within each time bar for major elements which involve purchase lead-time, fabrication, seasonal treatment, mockups, testing, or similar phases as well as installation. Where length of installation time exceeds 2 months, divide phase into 10 equal-dollar-volume segments (not necessarily of equal time length).
  4. Show double cost line immediately below date line in heading, showing precalculated dollar-volume and space for recording actual dollar-volume of completed work at end of each period scheduled.
- B. Submittal: Following initial revision of schedule after Architect's/Engineer's review, print and distribute schedule to entities with a need-to-know responsibility, including 3 copies to Architect/Engineer. Post in temporary office space. Revise at intervals matching payment requests, and redistribute/reports. Provide required copies with payment requests.

**1.02 MEETINGS AND REPORTING:**

- A. General: Require attendance at meetings of major subcontractors and other entities likely to be affected by results of meetings. Record discussions and decisions of all meetings and distribute copies to those attending and others affected including Architect/Engineer.
- B. Organizational Meeting: Within 15 days prior to commencement of work at site or at such other time as directed by Architect, conduct general organizational meeting at site or elsewhere as directed. Require attendance by major subcontractors and other entities. Discuss arrangements and policies for submittals, payment requisitions, and other general policy matters.

1. **Note: Pay particular emphasis to requested deviations from requirements of Contract Documents.** Arrive at meeting prepared to justify such deviations.

C. Project/Coordination Meetings: Conduct general progress and coordination meetings at least once each month, attended by a representative of each primary entity engaged for performance of work. Schedule meetings to coordinate with preparation of payment requests.

D. Special Meetings: Conduct special meetings as called for in Specifications, when particular problems occur, or as directed by Architect, attended by entities affected. Record and distribute copies as specified for Project meeting.

1. Special meetings include but are not limited to following:

a. Pre-roofing conferences.

b. Temporary material egress system for new mezzanine.

E. Reports: Submit reports to Architect as required by Contract Documents, including but not limited to following:

1. Daily activities.

2. All meetings, including those not attended by Architect's representative.

3. Reports of special events of unusual or significant nature (such as visits to site by dignitaries and media, hurricanes or other unusual weather phenomena).

#### 1.03 SCHEDULE OF VALUES:

A. Prepare Schedule of Values to show breakdown of Contract Sum corresponding with payment request breakdown and progress schedule line items. Show dollar value and percent of total for each unit of work scheduled.

#### 1.04 PAYMENT REQUESTS:

A. Submit request for each calendar month, not later than 15th day of following month unless otherwise indicated in Contract Agreement or mutually agreed to. Unless otherwise indicated in Contract Agreement or mutually agreed to use AIA G702 fully completed and executed; submit in triplicate, including attachment of waivers and similar documentation with one copy.

B. Where not required earlier under other provisions of Contract Documents, submit following a minimum of seven days prior to submittal of initial progress payment:

1. List of principal subcontractors and suppliers.

2. Schedule of Values.

3. Progress schedule and first progress report.
  4. Copies of building permits and similar start-up authorization or certifications.
  5. Performance/payment bonds.
  5. Performance/payment bonds (if required).
  6. Evidence of insurance coverages.
- C. For Substantial Completion and Final Payment payment requests comply with requirements as specified under SECTION 01700 - PROJECT CLOSEOUT.

END OF SECTION



SECTION 01210 - PROCEDURES, PERFORMANCES, COORDINATION

PART 1 - GENERAL

1.01 RELATED WORK:

- A. Reports, Meetings, Payments: SECTION 01555.
- B. Testing Laboratory Services: SECTION 01250.
- C. Quality Assurance; Submittals: SECTION 01340.

1.02 DESCRIPTION OF WORK:

- A. Types: The types of minimum requirements for procedural and performance work of a general nature include but are not necessarily limited to the following categories:

- 1. Coordination.
- 2. Superintendence; Supervision; Emergency Notification.
- 3. Surveys and records or reports.
- 4. Special reports.
- 5. Tradespeople and workmanship standards.
- 6. Cleaning and protection during construction.
- 7. Conservation and salvage.
- 8. Inspections, tests, reports.

1.03 SUPERINTENDENCE; SUPERVISION; EMERGENCY NOTIFICATION:

- A. Within 15 days following notice of Award of Contract Contractor shall submit complete resume of the proposed Superintendent. Should the Superintendent leave the Contractor's employ for any reason, or be incapacitated for a period exceeding one week, a replacement satisfactory to Architect shall be provided immediately.
- B. Unless otherwise approved by Architect Superintendent shall be engaged exclusively for Work of this Project, full time at the job site during the entire course of construction.
- C. Contractor shall designate a capable assistant superintendent authorized to act for the Contractor in the absence of the Superintendent.



- D. Contractor shall furnish to Owner, in writing, the names, addresses and telephone numbers of the Superintendent and other persons to be contacted in the event of an out-of-hours emergency at the Contract Site.

1.04 COORDINATION OF CONSTRUCTION:

- A. General: Contractor's coordination of the Work shall be complete, and shall extend to all modifications in the Work, whether or not such modifications entail a change in Contract Price. In order to complete the Project in a timely and efficient manner, without disturbing work already installed.
  - 1. Where Contract Documents allow an optional material or method of performing a portion of the Work, or where Contractor is ultimately allowed or directed to perform a part of the Work using a substitute material or method, Contractor shall provide all other coordination and additional work that such change necessitates, without any additional cost to Owner.
  - 2. Perform Work so that each trade proceeds in orderly and timely sequence, to accommodate the work of other trades.
  - 3. Arrange for timely delivery of anchor bolts, inserts, frames and other items to be built-in with concrete or masonry, together with the necessary setting diagrams, templates and the like.
    - a. Note that the respective materials are not necessarily specified within the Specifications Section under which they are to be installed.
  - 4. Arrange for timely delivery and proper installation of all concealed blocking, reinforcing and similar work to be concealed by subsequent construction; do not cover any such work until Architect has been notified and given ample opportunity to observe such concealed work.
  - 5. Resolve conflicts between respective materials/trades trades in adequate time to prevent delay in the Work.
  - 6. Make no changes in ceiling heights; wall layouts; shaft chases, furring or other dimensions; elevations; or other dimensions shown on the Drawings, without the specific written approval of Architect.
  - 7. Notify Architect promptly of any apparent or real conflicts as they are observed; obtain Architect's determination before proceeding.
    - a. Except in emergency conditions notify Architect in writing of apparent or real conflicts; where necessary to make oral communications follow up promptly with written notification.

1.05 SURVEYS AND RECORDS:

- A. General: Working from lines and levels established by property survey, and as shown in relation to the work, establish and maintain bench marks and other dependable markers to set lines and levels for the work at

each story of construction and elsewhere on site as needed to properly locate each element of entire project. Calculate and measure required dimensions as shown (within recognized tolerances if not otherwise indicated); do not scale drawings to determine dimensions. Advise tradesmen performing the work, of marked lines and levels provided for their use in layout of work.

1.06 PROJECT RECORD DOCUMENTATION:

- A. Record Drawings: Maintain a complete set of blue/black-line prints of Contract Drawings and shop drawings for record mark-up purposes throughout the Contract Time. Mark-up drawings during the course of the work to show changes and actual installation conditions, sufficient to form a complete record for Owner's purposes. Give particular attention to work which will be concealed and difficult to measure and record at a later date, and work which may require servicing or replacement during life of project. Require entities marking the prints to sign and date each mark-up. Bind prints into manageable sets, with durable paper covers, appropriately labeled.

1.07 INSPECTIONS, TESTS AND REPORTS:

- A. General: Required inspection and testing services are intended to assist in determination of probable compliance of the work with requirements, but do not relieve Contractor of responsibility for those compliances, or for general fulfillment of requirements of Contract Documents. Specified inspections and tests are not intended to limit Contractor's quality control program. Afford reasonable access to agencies performing tests and inspections.
- B. Reports: Submit test/inspection reports, including agency's analysis of results and recommendations where applicable, in duplicate to Architect except as otherwise indicated, and submit copies directly to governing authorities where required or requested.

1.08 CLEANING AND PROTECTION:

- A. General: During handling and installation of work at project site clean and protect work in progress and adjoining work on a basis of perpetual maintenance. Apply suitable protective covering on newly installed work where reasonably required to ensure freedom from damage or deterioration at time of substantial completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- B. Limiting Exposures of Work: To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work whether completed or in progress, will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period. Such exposures include (where applicable, but not by way of limitation) static loading, dynamic loading, internal pressures, external pressures, high or low temperatures, thermal shock, high or low humidity, air contamination or pollution, water, ice, solvents, chemicals, light,

Phase II Renovations, State House

radiation, puncture, abrasion, heavy traffic, soiling, bacteria, insect infestation, mildew, combustion, electrical current, high speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive testing, misalignment, excessive weathering, unprotected storage, improper shipping/handling, theft and vandalism.

END OF SECTION

**SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS**

**1.01 COORDINATION:**

- A. General: Contractor's coordination of the Work shall be complete, in order to complete the Project in a timely and efficient manner, without disturbing work already installed.
1. Perform work so that each trade proceeds in orderly and timely sequence, to accommodate the work of other trades.
  2. Arrange for timely delivery of anchor bolts, inserts, frames and other items to be built-in with concrete or masonry, together with the necessary setting diagrams, templates and the like.
  3. Resolve conflicts between respective materials/trades trades in adequate time to prevent delay in the Work.
  4. Make no changes in ceiling heights; wall layouts; shaft chases, furring or other dimensions; elevations; or other dimensions shown on the Drawings, without the specific written approval of Architect.
  5. Notify Architect promptly of any apparent or real conflicts as they are observed; obtain Architect's determination before proceeding.
    - a. Except in emergency conditions notify Architect in writing of apparent or real conflicts; where necessary to make oral communications follow up promptly with written notification.
- B. Coordination of Submittals: Coordinate submittals so that items are submitted in timely manner and proper sequence as not to delay the Work of the Contract. In particular:
1. Arrange for the submission of roughing-in drawings for items requiring buried or otherwise concealed mechanical or electrical services, well in advance of placing of concrete or other construction that will conceal such services.
  2. Coordinate submissions, including for approval of products as specified or as "approved equals". so as to allow ample time for Architect's review and for resubmittals if required.

**1.02 QUALITY ASSURANCE:**

- A. General:
1. Contractor shall be fully and solely responsible for quality assurance to assure that work as constructed conforms fully with intent of Drawings and Specifications.
  2. Unless otherwise indicated, the term "Contractor" shall mean and intend the General Contractor, the entity responsible for entire

## Phase II Renovations, State House

construction of the Contract. Make all submittals and other communications through Contractor, not directly from any subcontractors, suppliers or other parties.

### B. Environmental Conditions:

1. Do not perform work when environmental conditions would adversely affect such work, unless adequate measures have been taken to overcome them.
2. In general, and unless more stringent measures are specified in the Technical Specifications or recommended by the respective manufacturers, perform work only within the ranges recommended by the manufacturer of the materials being installed.

### C. Personnel:

1. Other than general laborers and apprentices, use only workers skilled in their respective trades
2. Use helpers and apprentices for skilled trades only under full and constant supervision of skilled workers.

### D. Product Handling:

1. Take all measures necessary to prevent damage to materials before, during and after installation.
2. Provide and maintain adequate temporary bracing, anchorages, etc. as required to hold installed material in place until the permanent supports are in place.
3. Take adequate measures to prevent damage through environmental conditions. Store materials subject to damage through freezing in heated areas during cold weather. Store ferrous metals and other materials subject to water damage undercover, and from direct contact with ground. Store cement and similar items in enclosed, weather tight buildings with raised floors.
4. Protect plastic materials from direct sunlight, and from open flames, fire or excessive heat.
5. In case of damage, provide repairs/replacements to the approval of Architect, at no additional cost to Owner.
6. As a minimum requirement, comply with recommendations of the material manufacturers for handling, storage, installation, and protection.

### F. Cleaning Up:

1. Keep work areas and premises clean, and free from accumulation of scrap material, debris and other surplus material.

## Phase II Renovations, State House

2. Provide adequate central location(s) for depositing of all debris, scraps, and similar material; require trades to deposit same in assigned locations; remove from premises and legally dispose of on a daily basis.
3. Do not allow new or existing work to be stained or otherwise damaged. When any such damage occurs, immediately clean and remove all traces and make good to the satisfaction of Architect.
4. Take particular care in cleaning of existing work to remain, in order not to damage historical fabric of the structure. Consult Owner's maintenance staff and follow directions as to such cleaning.

### G. Fire and Accident Prevention:

1. Take all reasonable measures necessary to prevent fire and accidents during construction.
2. Follow all directives and regulations of Owner's Insurers and authorities having jurisdiction such as but not limited to the state and local fire fighting authorities.
3. Do not allow combustible materials, surplus or otherwise, to accumulate in building. Store oily rags and other materials subject to spontaneous combustion outdoors or within approved covered steel containers.
4. Do not allow materials, stored or installed, subject to wind damage to remain unsecured during non-working hours or during high winds. In particular, securely tie down or otherwise secure all materials light enough to be blown about by windstorm, including any temporary construction.
5. *Fire Watch: Use open torches, perform welding or other operations likely to cause fire only with a qualified person, to watch for fire, with fire-extinguishers of appropriate type and size, standing by.*

### H. Reference Documents:

1. Wherever reference is made throughout the Specifications or Drawings to American Society for Testing Materials (ASTM) Standards, Federal Specifications, American National Standards Institute (ANSI) Standards, or other standards, such reference shall mean to the latest edition of same in effect 60 days before the date of the Specifications or Drawings.
2. Obtain copies of such reference standards and maintain at the job site during the entire period the particular work in question is in progress.

- I. Compatibility: Where more than one choice is available for selection by Contractor, select option which is compatible with other materials or products already in place (which may have been from options already selected). Do not construe approval of substitutes by Architect as

assurance that such substitutes are compatible with other materials or products already selected or approved. Total compatibility among options/substitutes is a basic general requirement of Contractor.

- J. Used Materials: Except as otherwise specifically indicated, use only new materials in Project.

1.03 SUBSTITUTIONS:

- A. General: Refer also to SECTION 3-A, STANDARD GENERAL CONDITIONS and SECTION 3-B, SUPPLEMENTARY GENERAL CONDITIONS, Article 9, MATERIALS, APPLIANCES, EMPLOYEES.
- B. Architect's Prior Approval Required:
  - 1. Unless indicated otherwise, the Contract is based on the materials, equipment, and methods described in the Contract Documents.
  - 2. Architect will consider proposals for substitution of materials, equipment, and methods only when such proposals are accompanied by complete technical data and all other information required by Architect to evaluate the proposed substitution.
  - 3. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved for this Work by Architect in advance.
- C. Reimbursement of Architect's Costs:
  - 1. In the event substitutions are proposed that require a redesign of work indicated, Architect and Consultants will record all time expended by office staff and/or Principals members in evaluating each proposed substitution.
  - 2. Architect will invoice Contractor for such redesign services at published billing rate of principles and staff members and the Invoices for such services shall be paid promptly upon receipt by Contractor.
- D. Aesthetics: The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the Project including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of Project. Architect will consider proposed substitutes on the basis of the overall design of the Work, as well as their intrinsic merits. Architect will not approve as equal to materials specified proposed substitutes which, in Architect's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Work.
- E. "Or Equal": Refer to SECTION 3-A STANDARD GENERAL CONDITIONS, and SECTION 3-B SUPPLEMENTARY GENERAL CONDITIONS.

F. Availability of Specified Items:

1. Verify before bidding that all specified items will be available in time for installation during orderly and timely progress of the Work.
2. In the event specified item or items will not be so available, notify Architect in writing before submission of bids.
3. Costs of delays because of non-availability of specified items, when such delays could have been avoided by Contractor, will be back-charged as necessary and shall not be borne by Owner or Architect.

1.04 SUBMITTALS; GENERAL REQUIREMENTS:

A. Submittal Requirements: Except as otherwise indicated in individual Trade Sections, comply with requirements specified herein for indicated categories of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.

1. Do not deliver any submittals to job site, or allow use of products represented thereby, until compliance with Contract requirements has been confirmed by Contractor.
2. Do not permit any submittals on job site, or allow installation of products represented thereby until necessary approval from Architect has been obtained.

B. Transmittal Form: AIA Form G810 unless mutually agreed to otherwise.

C. Resubmittals: If any information on previously submitted submittals, aside from notations made by Architect, is revised in any way, such revision shall be circled or otherwise graphically brought to Architect's attention. If approved submittals are subsequently revised, they shall be resubmitted to Architect with all revisions clearly marked for Architect's attention. Whenever transmittals are revised, circle the latest revisions or otherwise distinguish them clearly from all previous revisions (and from the information on the original submittal).

1.05 ACTION ON SUBMITTALS:

A. Architect's Action: Where action and return is required or requested, Architect will review each submittal, mark with "Action", and where possible return within 3 weeks of receipt. Where submittal must be held for coordination, Contractor will be so advised without delay.

1. No Exceptions Taken: Work may proceed, provided it complies with Contract Documents, when submittal is returned with the following:
  - a. Marking: No exceptions taken.
2. Make Corrections Noted: Work may proceed, provided it complies with notations and corrections on submittals and with Contract Documents. Architect's comments shall be considered as part of the original submittal. Should Contractor disagree with any such comments, so



notify Architect within fourteen (14) days after receipt of such transmittal and before commencing work on the item(s) in question. Failing this, Contractor shall be deemed to have agreed to such comments by Architect to have accepted full responsibility for implementing them at no additional cost to the Owner.

a. Marking: Make corrections noted.

3. Amend and Resubmit: Do not proceed with work at site or allow submittal at site. Fabrication in shop or factory may proceed on items not affected by the Architect's comments only. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking.

a. Marking: Amend and Resubmit; or Revise and Resubmit.

4. Submit Specified Item: Do not proceed with work at site or allow submittal at site. The item as submitted does not comply requirements of the Contract Documents and is not accepted as an approved equal.

a. Marking: Submit Specified Item.

5. Other Action: Where submittal is returned for other reasons, with Architect's explanation included, it will be marked as follows:

a. Marking: Rejected. See Remarks.

#### 1.06 SHOP DRAWINGS:

A. General: Provide newly-prepared information, with graphic information at accurate scale (except as otherwise indicated). Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards, and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by Architect to be used in the Work.

B. Drawing Types: In addition to number of copies required by Contractor's use submit not less than three blue or black line prints (four for work prepared by a consultant of Architect). Affix Contractor's stamp and notations to each print, or affix to original or reproducible before making of prints.

1. At Contractor's option submit, in addition to the foregoing prints, one reproducible transparency (ozalid type) with Contractor's stamp and notations affixed, for Contractor's use in processing the reviewed shop drawings. Architect will affix own stamp and comments to the reproducible and return to Contractor.
2. Up to three additional prints may be submitted at option of Contractor.

C. Procedures for Shop Drawings:

1. If drawing is returned by Architect for resubmittal, Architect will retain two print copies, to be retained as a record copy for comparison with the resubmittal. The remaining prints, with Architect's comments affixed, will be returned to Contractor.
2. When final (unconditional or conditional) release by Architect is obtained, Architect will two copies (three in the case of work prepared by Architect's Consultants) for Architect's and Owner's use. Remaining prints, with Architect's stamp and comments affixed, will be returned to Contractor.

1.07 PRODUCT DATA:

- A. General: Mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, illustrated cuts of items to be furnished, scale details, sizes, dimensions, performance characteristics, capacities, special coordination requirements, and other pertinent information.
- B. Preliminary Submittal: Provide a preliminary single-copy where required (or desired by Contractor) for selection of options by Architect.
- C. Procedures, Architect Action Required: Except as specifically indicated otherwise, approval by Architect is required of product data.
  1. Minimum of 3 copies, each clearly marked to show all choices and options applicable to Project.
    - a. Submit additional copies where specified, directed by Architect, or at option of Contractor.
  2. Copies will be marked ACCEPTED or REJECTED by Architect.
  3. Two copies of each will be returned to Contractor.
  4. Resubmit copies marked REJECTED until NO EXCEPTIONS TAKEN is obtained.
- D. Procedures, Architect Action Not Required: Where product data (or manufacturer's data or words of similar meaning and import) is specified to be submitted "for information only", unless otherwise directed by Architect submit two copies of product data for Architect's information and records only. Initial submittal is final submittal unless returned promptly by Architect marked with an "Action" which indicates an observed non-compliance, or unless Architect directs otherwise.
  1. Submit an additional two copies (which will be returned) where required for maintenance manuals, or at option of Contractor.
  2. Where returned by Architect with an "Action", resubmit in same manner as specified for those requiring Action by Architect.

3. If "Action" by Architect is requested by Contractor, submit number of additional copies requested to be returned.

1.08 SAMPLES:

- A. General: Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Architect's selection is required, where specified or if requested by Architect. Prepare samples to match Architect's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by Architect. Architect will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of Contractor.
- B. Submittal: At Contractor's option, provide preliminary submittal of a single set of samples for Architect's review and "Action." Otherwise, initial submittal is final submittal unless returned with "Action" which requires resubmittal. Submit 3 sets of samples in final submittal; one set will be returned.
- C. Quality Control Set: Maintain returned final set of samples at Project Site, in suitable condition and available for quality control comparisons by Architect, and by others.
- D. Reusable Samples: Returned samples which are intended or permitted to be incorporated in the work are so indicated and must be in undamaged condition at time of use.

END OF SECTION

SECTION 01500 - TEMPORARY FACILITIES & CONTROLS

1.01 GENERAL:

- A. It is not the intent of this SECTION to define or identify every item of temporary facility or control needed. Contractor shall be responsible for providing all plant, materials, labor, supervision, equipment and other items of material or work, whether of a temporary or permanent nature, as required for the proper, expeditious prosecution and completion of the Work of the Contract.
  - 1. Include costs of all fuel and utilities consumed except as otherwise specified or indicated.
- B. Except as otherwise specified all temporary facilities shall be provided and maintained at the expense of the General Contractor.
- C. In general, all temporary work outside Contractor's assigned work area shall be under the control and direction of Owner.
- D. Job Conditions:
  - 1. General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.
  - 2. Conditions of Use: Install, operate, maintain and protect temporary facilities, in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects. Relocate from time to time as required by job progress.
- E. Laws/Regulations/Standards: Comply with all applicable Federal, State and Local Laws, Rules and Regulations. Additionally, comply with rules/recommendations of franchised utility companies, and with specific requirements indicated, and with applicable local industry standards for construction work (published recommendations by local "building councils").
- F. Utilities Furnished by Owner: Owner will provide only following utilities for use by Contractor, provided they are not wasted:
  - 1. Water for construction purposes.
  - 2. Light and power for work within existing structure only, not to exceed capacity of existing system and not for welding.
  - 3. Temporary heat for enclosed work only within existing structure.
- G. Use of Existing Services: Except as otherwise specified or indicated, or unless otherwise approved by Owner, use of existing services for construction purposes shall be confined to work within the existing

structure, to within the capacities of such services, and shall not be wasted or misused. Contractor shall make good any damage to existing facilities utilized for construction at no additional cost to Owner.

- H. Protection of Existing Services: Do not allow existing utilities or other services to be terminated other than for brief shutdown periods where necessary to connect new work. Before making any shutdowns, notify Owner at least 48 hours in advance and secure Owner's permission.

- 1. In particular, maintain existing fire protection and communication systems at all times. If shutdowns are necessary, confine to minimum periods practicable and only after prior notification to Owner and Owner's insurance services. *If terminated accidentally, notify Owner's security service and fire and police departments immediately and take all measures necessary to resume protection as soon as possible.*

- I. Phasing and Scheduling: Note that existing structure is to remain in operation during construction periods. Refer to SECTION 01020 - SUMMARY OF WORK, for phasing and other scheduling requirements.

1.02 CONSERVATION OF UTILITIES FURNISHED BY OWNER:

- A. Utilities furnished by Owner shall not be wasted.
- B. If Architect determines that such utilities are being unduly wasted, Architect shall have the right to withdraw such usage and compel Contractor to provide same at Contractor's expense; or to assess reasonable costs for the quantities estimated to be wasted and backcharge such costs to Contractor.

1.03 RELOCATION AND REMOVAL:

- A. Relocate temporary facilities from time to time as required by the construction progress.
- B. Remove all temporary facilities promptly as their necessity ceases to exist, with all evidence of their existence removed or properly concealed.

1.04 TEMPORARY UTILITIES:

- A. Make all arrangements for, and except as otherwise specified pay all costs in connection therewith for temporary utilities as required for the preservation of the work, including heat, light and power, and water.
- B. Except as otherwise specified, new permanent facilities to be provided under this Contract may be utilized if approved by Architect. Before approval, Contractor must demonstrate satisfactorily to Architect that following will be complied with:
  - 1. Properly skilled labor will be provided as required to operate and maintain the facilities to be used.

2. The system will be restored to "as new" condition at time of Substantial Completion.
3. Filters and the like will be properly cleaned or replaced as applicable throughout usage of the system, and when no longer required for temporary facilities usage.
4. Lamps in new lighting fixtures replaced with new, insects and debris removed from fixtures and fixtures cleaned to new condition.
5. All damages to the system are repaired or replaced to satisfaction of Architect.

C. Architect reserves the right to rescind approval of permanent facilities for temporary facilities usage if foregoing requirements are not complied with.

#### 1.05 TEMPORARY WATER:

- A. New Construction: Provide water distribution system for new construction, for all trades requiring same.
- B. Existing Building: Provide *leak-tight* system of heavy-duty hoses, or other approved methods, for delivering water to trades requiring same.
- C. Existing Systems: Existing water distribution systems, including hose bibbs in janitors closets and similar service locations, may be utilized to extent feasible, provided Contractor assumes full responsibility for entire distribution system, pays costs of restoration of all portions of system to remain.
  1. Owner will bear costs of water from existing facilities used for construction purposes so long as it is not wasted.
- D. Drinking Water: Provide an adequate supply of drinking water from approved sources of acceptable quality, satisfactorily cooled, for employees of Contractor and Contractor's subcontractors. Furnish drinking water in suitable containers and provide single-service disposable cups; or from approved sanitary drinking fountains. Provide dispensers in convenient locations where work is in progress.
- E. Non-potable Water: If non-potable water is used, clearly mark each outlet with adequate health-hazard warning signs.
- F. Termination: At completion of construction work or at such time as Contractor makes use of new permanent water supply installation, remove temporary water service equipment and piping.

#### 1.06 TEMPORARY SANITARY FACILITIES:

- A. Contractor will be allowed use of existing first floor public toilet facilities for use by employees.

1. Contractor shall require employees to use such facilities carefully, and be responsible for correcting any damages or nuisances caused by any workers while engaged under work of this Contract.
  - B. Do not use, or allow employers or employees of subcontractors to use, permanent new sanitary facilities to be provided for the Project, or other existing facilities.
    1. At Contractor's option temporary water closets and lavatories may be installed on new plumbing roughing to be provided, or on existing roughing where existing fixtures are to be removed.
  - C. Other existing facilities to remain may not be utilized by Contractor.
  - D. Portable toilet facilities will not be allowed.
- 1.07 TEMPORARY CONSTRUCTION AND PROTECTION:
- A. General: Provide all temporary hoisting facilities, staging, scaffolding, stairs, ladders, ramps, platforms, and other temporary construction as required for the proper performance and completion of the Work. All such temporary construction shall be erected and maintained so as not to endanger the structure, employees, the public, or any Work of the Project.
  - B. Material Egress for New Mezzanine: It is expected that construction of new mezzanine facility will require large opening in existing wall construction as well as hoisting facilities on the adjacent lawn. Submit detailed proposal for accomplishing of such tasks, including provisions for temporary closures in wall; transportation of hoisting facility over granite wall, fence and lawn; hoisting facility system; tree protection; shrubbery protection; sidewalk, curb and road protection; dates for start and completion, and other pertinent information.
    1. Proposal shall be prepared under direction and be signed by a Maine Licensed Professional Engineer.
    2. Work shall not commence until area of new construction within the building is enclosed with dust-tight partitions, and satisfactory methods are available for temporary weather-tight enclosure of opening at end of each working day and during inclement weather.
    3. If necessary, remove carefully existing windows and store in protected location; reinstall when work is completed.
    4. Trees shall not be disturbed. Shrubbery, if necessary to disturb, shall be properly transplanted and replanted in original location.
      - a. Comply with requirements of Division 2 Sections of the Specifications.

Phase II Renovations, State House

5. Provide all temporary construction and take all measures necessary to prevent damage to adjacent trees, shrubbery, fencing, masonry and other work not
6. Work of Contract includes protection of all existing trees, and complete restoration of lawn, fence, stone wall, exterior wall, windows, and all other existing construction to remain.
  - a. Contractor shall be responsible for and bear all costs of damage to existing construction to remain, and restoration to original condition.
- C. Temporary Buildings: Provide all temporary buildings as required for construction purposes, including temporary office and storage facilities.
  1. Trailers may be used at option of Contractor.
  2. Note that covered facilities for storage or other purposes will not be available on the site.
  3. Locate such facilities as approved or directed by Owner.
    - a. Off-site trailers and temporary structures may be located at Grove Street parking lot, north of parking deck.
- D. Temporary Office Facilities for Contractor: Provide suitable temporary office facilities on site, equipped with telephone, desks, file cabinets, reference table, and other furniture as required. Maintain in clean, sanitary condition and available to Architect during normal work hours. Temporary office may be in suitable outside shed or trailer.
- E. Temporary Office Facilities for Architect: Provide temporary office facilities for Architect, not less than 100 square feet of space and maintained in clean, sanitary, properly heated, ventilated and lighted condition. Equip with following equipment, all of heavy duty office grade construction:
  1. Desk and three chairs, one of swivel type.
  2. Reference table not less than 30 in. by 60 in.
  3. Drawing file rack to hold minimum of six sets of drawings.
  4. File cabinet, two drawers minimum.
  5. Window fan.
  6. Electrical system complying with National Electrical Code as minimum, with overhead light fixtures and wall switches, not less than five duplex power outlets.
  7. Sanitary facilities, which may be shared with Contractor's office personnel.



8. Separate telephone line for Architect. Pay all costs for installation and maintenance other than toll calls.
  9. Heating and ventilating system to keep office in comfortable condition.
  10. Windows and doors, each with adequate locks and insect screening.
  11. Suitable trailer will be satisfactory, including portion of trailer used for Contractor's temporary if adequately separated with locked doors.
- 1.08 TEMPORARY PROTECTION:
- A. Provide temporary protection for the Work.
  - B. Keep openings in walls locked or otherwise secured. Provide construction master keyed cylinders as specified.
  - C. Keep storage trailers, sheds or other temporary structures within approved locations. Where necessary for protection of materials suitably heated and ventilated.
- 1.09 DUST-TIGHT PARTITIONS:
- A. Provide dust-tight partitions as required to seal off new addition from existing construction in use by Owner, and areas of construction within existing structure that cause significant amounts of dust or noise.
  - B. Construct partitions substantially, using fire-resistant gypsum drywall and metal or fire-resistive treated wood studs. Extend full height from finish floor to underside of deck above, with all openings and penetrations sealed. Provide solid core wood or hollow metal doors, equipped with closers, self-latching locksets and weatherstripping.
    1. Paint surfaces of partitions and doors facing corridors or other public spaces, with latex paint in color as selected by Architect.
- 1.10 DUST CONTROL:
- A. Take all reasonable steps to control spread of dust throughout site and environs, particularly within existing structures to be occupied.
  - B. When particularly dusty operations are anticipated notify police and fire chiefs in advance, so that they can take preventive measures if necessary.
- 1.11 WEATHER PROTECTION; HEATING AND VENTILATING (NEW CONSTRUCTION):
- A. Provide Weather protection for new construction portion of this Project as required for continuous prosecution of the Work and to prevent damage to all permanent new construction.

1. Weather Protection shall consist of enclosing walls, windows, doors, roofing and other portions of the building exterior when feasible; with either permanent new construction or adequate temporary construction.
- B. The Construction area shall be completely enclosed by either permanent construction or substantial temporary materials having resistance to the elements comparable to the designed permanent construction. Contractor shall provide and pay for temporary heating and ventilating from commencement of work at the sites until Substantial Completion of the Work, including fuel consumed. In areas of building where work is being conducted, temperature shall be continuously maintained as specified in Technical Sections but not less than 50 deg. F. nor more than 75 deg. F. during the heating season.
  1. "Enclosed" as used in foregoing shall mean:
    - a. Permanent wall and openings closed with permanent doors, windows louvers and similar construction in place; or with temporary construction over openings at least equal to that of the permanent construction.
- C. Provide and maintain and install one accurate recording Fahrenheit thermometer on each floor to ascertain that required temperatures are being maintained.
- D. Protect permanent windows and other enclosures against damage from mortar, cement, plaster, etc., and from damage by other trades; upon completion of Work thoroughly clean, repair or replace damaged component parts including glass and leave in "as new" condition.
- E. When permanent new heating system, or suitable portion thereof, is in operating condition, such system may be used for temporary heating, provided Contractor obtains approval of Architect and Owner. Approval will not be granted until following conditions are met:
  1. Permanent wall and roof construction is in place.
  2. Openings in walls enclosed with permanent new doors, windows, louvers and other construction, or - subject to approval of Architect - with temporary construction that will provide at least equal weather protection.
  3. Permanent roofing is in place and all roof openings enclosed with permanent new construction or - subject to approval of Architect - with temporary construction that will provide at least equal weather protection.
  4. Permanent air-handling facilities may not be used for construction heating purposes until all dust-making trades such as demolition, concreting, plaster, masonry and the like, have been completed. Filters shall be in place and properly maintained. Immediately prior to acceptance of the structure by the Owner, replace disposable filters and properly clean the cleanable type.

Phase II Renovations, State House

- F. Provide adequate ventilation as required to keep temperature of building within 15 deg. of ambient outdoor temperature when such ambient temperature exceeds 70 deg. F, and to prevent accumulation of excess moisture in building. Permanent ventilating systems may be used for this purpose, subject to filter replacement requirement as specified for temporary heat.
- 1.12 WEATHER PROTECTION, HEATING AND VENTILATING (EXISTING BUILDING):
- A. Note that work under this Contract requires installation of new work in existing exterior walls and roofs, as well as temporary openings to accommodate delivery of large items of equipment and building materials to within the structure.
  - B. Perform and schedule work, and provide all temporary closures as required, to prevent damage to existing building and contents from the elements; as well as to provide minimum loss of heating or cooling energy.
  - C. Refer to SECTION 02052 - SELECTIVE DEMOLITIONS AND REMOVALS, for additional requirements.
- 1.13 PROJECT SIGN:
- A. Provide project sign in location as indicated, or if not indicated in location as directed by Architect.
  - B. Unless otherwise indicated, provide sign 4 feet high by 8 feet wide constructed of Exterior Grade MDO plywood.
  - C. Unless otherwise indicated include essentially information shown on Title Block of Drawings with addition of Contractor's name and address, in layout and style as provided by Architect.
  - D. Photographic process signs will be acceptable.
- 1.14 TEMPORARY FENCING AND BARRICADES:
- A. Provide and maintain a removable temporary fence/barricade around area of new construction as indicated, or if not indicated as directed or approved by Architect.
  - B. Unless otherwise indicated or approved provide fence/barricade of exterior grade plywood, 4 ft high secured to 2 by 4 bracing so as to remain in place but be easily relocated as necessary. Provide hinged openings as required for access to site.
  - C. Paint exterior (public) side with exterior grade gray paint.

END OF SECTION

SECTION 01700 - PROJECT CLOSEOUT

1.01 GENERAL DEFINITIONS:

- A. The provisions of this Section apply primarily to closeout of actual physical work, not to administrative matters such as final payment and changeover of insurances. Closeout requirements relate to both final completion and substantial completion of work, and apply to individual portions of completed work as well as the total work. Specific requirements in other Sections have precedence over general requirements of this Section.

1.02 PROCEDURES AT SUBSTANTIAL COMPLETION:

- A. Prerequisites: Comply with General Conditions and complete following before requesting Architect's inspection of the work, or designated portion thereof, for substantial completion. Submit executed warranties, workmanship bonds, maintenance agreements, inspection certificates and similar required documentation for specific units of work, enabling Owner's unrestricted occupancy and use.

1. Special Warrantees and Guarantees: Turn over to Owner all special warranties and guarantees for periods in excess of one year from date of Substantial Completion.
2. Maintenance Manuals: Comply with requirements specified hereinafter. Submit for all items specified under Technical Sections of Specifications.
3. Extra Material: Deliver all extra material, tools and spare parts for maintenance purposes as called for in Contract Documents, including but not limited to following:
4. As-Built Documents: Submit final as-built and other project documentation records as specified under SECTION 01210.
5. Locks: Change locks from construction to permanent masterkey system. Refer to SECTION 08719 - FINISH HARDWARE.
6. Owner's Instructions: Complete instruction of Owner's operating personnel, and start-up of systems, as specified hereinafter.
7. Maintenance Agreements: Submit maintenance agreements as called for in the Specifications (over and above standard and extended warranty provisions), including but not limited to following:
  - a. Handicap lift, SECTION 14210.
8. Final Cleanup: Complete final cleaning and remove temporary facilities and tools,

- B. Inspection Procedures: Upon receipt of Contractor's request, Architect will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Architect will either prepare certificate of substantial completion, or advise Contractor of

work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "punch-list" for final acceptance.

1. Architect will not be required to commence inspection until "Punch List" of items to be completed does not exceed two 8-1/2 in by 11 in typewritten pages, double spaced.
2. Maintenance Manuals: Submit 3-ring vinyl-covered binders containing required maintenance manuals, properly identified and indexed. Include operating and maintenance instructions; extended to cover emergencies, spare parts, warranties, inspection procedures, diagrams, safety, security, and similar appropriate data for each system or equipment item. Submit as specified under applicable Technical Sections of Specifications, including but not limited to following:
  - a. Submit three copies of all manuals.

1.04 PROCEDURES AT FINAL ACCEPTANCE:

- A. Prerequisites: Prior to requesting Architect's final inspection for certification of final acceptance and final payment, as required by General and Supplementary Conditions, complete following and list known exceptions (if any) in request:
  1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
  2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
  3. Submit certified copy of Architect's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect.
  4. Submit final meter readings for utilities, and similar data as of time of substantial completion or when Owner took possession of and responsibility for corresponding elements of the work.
  5. Submit release or waivers of liens from subcontractors, material suppliers, and others.
  6. Submit consent of surety.
  7. Submit (if applicable) final liquidated damages settlement statement, acceptable to Owner.
  8. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.

9. Submit evidence of required operating (maintenance) instructions having taken place, including dates, equipment items represented, representatives of subcontractors/manufacturers attending, and number of Owner's personnel present.

B. Re-inspection Procedure: Upon receipt of Contractor's notice that work has been completed, including punch-list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, Architect will re-inspect work. Upon completion of re-inspection, Architect will either recommend final acceptance and final payment, or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

#### 1.04 GENERAL CLOSEOUT REQUIREMENTS:

A. Operator Instructions: Require each Installer of systems requiring continued operation/maintenance by Owner's operating personnel, to provide on-location instruction to Owner's personnel, sufficient to ensure safe, secure, efficient, non-failing utilization and operation of systems.

B. Final Cleaning: At closeout time, clean or reclean entire work to normal level for "first class" maintenance/cleaning of building projects of a similar nature. Remove non-permanent protection and labels, polish glass, clean exposed finishes, touch-up minor finish damage, clean or replace filters of mechanical systems, remove debris and broom-clean non-occupied spaces, sanitize plumbing/food service facilities, clean light fixtures and replace all lamps with new, sweep and wash paved areas, police yards and grounds, and perform similar cleanup operations needed to produce a "clean" condition as judged by Architect.

1. Remove carefully any maintenance instruction labels, or labels containing warranties or other useful information, and include with "maintenance manuals" to be provided.

C. Temporary Construction: Unless otherwise indicated remove all temporary fencing, barriers, staging, and other temporary construction; conceal all evidence of prior existence.

#### 1.05 ARCHITECT'S INSPECTIONS:

A. Architect will be required to make a total of three visits to the site for purposes of inspecting for Substantial Completion and Final Completion. Additional visits required by reason of prerequisites not completed, excessive "punch list" items, and "punch list" items not properly corrected at visit for Final Completion, or for other failure of Contractor to comply with requirements, shall be reimbursed to Architect by Contractor at Architect's published standard billing rates for personnel involved.

1. Invoices for such additional inspections shall be paid promptly upon presentation by Architect.

1.05 POST-CONSTRUCTION INSPECTION:

- A. Prior to expiration of one year from Date of Substantial Completion, Architect will make visual inspection of Project in company with Owner and Contractor to determine whether correction of Work is required, in accordance with provisions of General Conditions.
- B. For guarantees beyond one year, Architect will make inspections at request of Owner, after notification to Contractor.
- C. Architect will promptly notify Contractor, in writing, of any observed deficiencies.

END OF SECTION

**SECTION 02052 - SELECTIVE REMOVALS AND DEMOLITION**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The Bidding Documents, Conditions of the Contract, and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of the Work.
- C. Refer in particular to SECTION 01046 - REMOVALS/ALTERATIONS/CUTTING/PATCHING; GENERAL.

**1.02 DESCRIPTION OF WORK:**

- A. General: The *intent* of this SECTION 02052 is to describe general procedures applicable to Selective Removal work as indicated on the Demolition Drawings, and other removal work enumerated herein. SECTION 01046 is intended to describe general requirements for removal work, alteration work, cutting and patching *for all* trades.
- B. Extent: Remove all existing work indicated to be removed or if not indicated as required to accommodate new work indicated. Work includes but is not limited to, removal of the following:
  - 1. Remove existing interior walls, partitions, floors, ceilings, stairs, toilet compartments, and other construction as indicated complete, including doors, frames and similar items within same.
    - a. Include doors, frames, all other items within floor/wall/partition/ceiling/roof constructions to be removed; unless otherwise indicated.
  - 2. Remove tile and other floor, wall and ceiling surfaces as indicated and as required to accommodate the new construction indicated.
  - 3. Remove materials and equipment for relocation or for salvage by Owner as indicated or specified.
  - 4. Remove existing mezzanine structure as indicated in its entirety.
  - 5. Remove lighting fixtures, devices, wiring and conduit as required, all other electrical work as indicated and required.
    - a. Refer to DIVISION 16 Sections for additional requirements.
  - 6. Cut openings in existing floors, walls and roofs as indicated, and as required to accommodate the new work indicated.



Phase II Renovations, State House

7. Provide and maintain temporary supports as required to prevent structural collapse of the building or any portion thereof, during and after cutting, removal, or other operations performed under this Section. Coordinate with installation of new permanent construction indicated.
8. Complete removal from premises of all removed materials, and legal disposal thereof, other than items designated to be salvaged or relocated.
9. Dismantling of large items as required for removal; provide crane or other facilities as required for lowering equipment to ground, temporary openings in exterior or interior walls as required for removal operations and restoration of same to original condition.
10. Restoration to original condition of all existing items to remain, damaged as a result of work under this SECTION 02052, to satisfaction of the Architect.
11. Complete removal from premises of all demised materials, not indicated to be relocated or salvaged, and legal disposal thereof, whether of value or not.
12. Remove existing material for re-use in Project as indicated.
13. Remove following items for salvage by Owner:
  - a. All granite.
  - b. All doors, door frames and hardware in walls and partitions to be removed.
  - c. Window treatment (curtains, drapes, blinds and the like) in rooms to be renovated.
  - d. All lighting fixtures in rooms to be renovated.
  - e. Items as indicated on Drawings
  - f. Owner may tag additional items to be salvaged for own use.
- C. Related Work Specified Elsewhere: The following work is not part of this Section and is to be performed under designation Sections or otherwise as indicated:
  1. Fine cutting, and other removal work not indicated on the Drawings and/or within this Section to be removed, but required for performance of work under the Contract: SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and the respective Trade (Technical) Sections.
  2. Excavation, backfilling, other earthwork: DIVISION 2 Sections.

3. Opening in existing exterior wall for material egress to accommodate construction of new interior mezzanine: SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS.
    - a. Coordinate work of this SECTION carefully with that of SECTION 01500; comply with applicable requirements as specified therein, including in particular requirements for weather protection at temporary openings in walls and roofs.
  4. Removal of Mechanical and Electrical Work: Refer to Mechanical and Electrical Drawings and Specifications for extent of mechanical and electrical work to be removed/relocated/salvaged. Unless otherwise specified or indicated under the respective Specifications or Drawings following removal work is part of the respective mechanical and electrical trades:
    - a. Turning off of utility services to mechanical and electrical equipment, fixtures, devices and the like.
    - b. Removal of mechanical or electrical items indicated to be relocated or salvaged (if any), or in which the service must be kept in operation.
    - c. Removal/disconnection of wiring, electrical fixtures, devices, other electrical work within existing walls, ceilings, roof or floor construction to remain.
    - d. *NOTE:* All other removal of mechanical and electrical work, specifically including that within walls, partitions and ceiling structures to be removed, is included under the scope of this SECTION 02052 unless otherwise specified or indicated on the mechanical or electrical Drawings or Specifications.
  5. Temporary partitions (dust partitions): SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS.
  6. Removal of Asbestos: By Owner under separate contract.
- D. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- 1.03 QUALITY ASSURANCE; SUBMITTALS:
- A. General: Comply with SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
  - B. Professional Engineer: Contractor shall engage a licensed Maine Professional Engineer to make structural determinations as to bearing conditions and other structural conditions, and for determining safe procedures for removal of structural members.
  - C. Removal Procedures and Schedule: Submit 2 copies of proposed methods and operations for removal work, and work schedule, to Architect for review prior to commencement of work.

## Phase II Renovations, State House

1. Indicate proposed methods, in detail, for maintaining structural integrity, coordination with other trades, terminating/continuation of utility services and other requirements.
2. Include shop drawings or other methods prepared under direction of the Professional Engineer for removal of major structural elements, including bearing walls, roof structures, columns, beams, girders, existing work to remain and the like. Indicate on shop drawings all structural shoring, bracing, sequencing and other work necessary to protect against collapse or other structural damage.
3. Indicate which items cannot or should not be removed during the initial removals stage of the Project.

### 1.04 JOB CONDITIONS:

- A. Building Occupancy: The existing structure will be occupied by Owner during this work.
  1. Arrange with Owner for temporary vacating of adjacent facilities during major structural removals or other operations which could cause hazard or major inconvenience to occupants.
  2. Note that all existing and temporary entrances/egresses to the building and its facilities must be maintained at all times.
  3. Refer to SECTION 01010 - SUMMARY OF WORK, for additional requirements.
- B. Conditions of Structures: The Owner assumes no responsibility for the actual condition of structures or parts of structures to be demolished or to remain.
- C. Bearing Conditions: Contractor shall be fully and solely responsible for determining which walls, partitions, and other components are load bearing structures.
- D. Protections:
  1. Conduct operations to prevent damage by falling debris or other cause to other facilities as well as persons, and to minimize disruption and annoyance to neighbors.
  2. Provide interior and exterior shoring, bracing or support to prevent movement or settlement or collapse of structures to be demolished.
- E. Damages: Promptly repair damages to new improvements or existing work to remain, caused by demolition operations, as directed by the Architect at no cost to the Owner.

### PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.01 POLLUTION CONTROLS:

- A. Comply with all applicable laws, rules and regulations of authorities having jurisdiction.
- B. Take all reasonable precautions to avoid annoyance to the public, in particular by limiting the amount of dust and dirt rising in the air, and noise control.
  - 1. Spray down plaster, drywall, concrete, masonry, and similar dust-producing materials before and during placing in trucks or in open storage containers.
  - 2. Use only trucks equipped with approved tarpaulins for transporting of dust-producing materials or materials that could be dislodged by wind.
  - 3. Confine noise-producing activities to normal working hours unless otherwise approved by Architect.
- C. Do not throw materials out of windows or from roofs. Provide and maintain suitable, fully enclosed chutes leading to refuse trucks or enclosed containers; remove all evidence of existence as their necessity ceases to exist.

3.02 SALVAGE AND RELOCATION:

- A. General: Remove carefully, all items specified or indicated to be salvaged or relocated, whether loose or affixed to the structure.
  - 1. Stockpile in secure area as directed by Owner. Protect until picked up by Owner. Obtain signed receipt when turned over to owner.
- B. Protection: Carefully remove, disassemble as required, all materials, equipment, or other items to be salvaged or relocated; adequately support and protect during the removal and hauling operations. If items are to be relocated, transport carefully to the new location and properly re-install. Make appropriate disconnections of services carefully prior to removal.
- C. Inspect closely each item prior to its removal, and report any damages or defects to the Architect. Failing this, the Contractor shall be responsible for any damages to same other than latent defects not readily apparent from a close inspection, and shall repair or replace same as directed by and to the satisfaction of the Architect.

3.03 OWNERSHIP:

- A. Except as otherwise indicated, all materials to be demolished or removed, as well as all debris, rubbish, and other surplus material shall become the property of the Contractor and shall be removed from the site and legally disposed of at his expense.

- B. It is expected that the Bid Prices will reflect the salvage value of removed material. Unless specifically indicated otherwise, the salvage value of removed material, not indicated to be salvaged for Owner's use or to be relocated, shall accrue to the party removing such material. Bidders, however, in the event of a Contract award shall accept the premises as they find them; no claim for alleged or actual losses due to reduced salvage value of any items or material will be considered by the Owner, for any reason whatever.

3.04 PROCEDURES:

- A. Proceed with demolition work in a systematic manner, and in accordance with the approved Removal Procedures and Schedule.
- B. Perform all cutting and rough patching of existing walls, floors, ceilings, roofs, and other structures. All cutting of existing materials shall be held to the absolute minimum as required to perform properly the work.
- C. Provide lintels in cuts in existing walls wherever required to maintain the structural soundness of the wall. Provide suitable other temporary supports as required.
- D. Locate demolition equipment throughout the structure and remove materials frequently so as to not impose excessive loads to supporting walls, floors, roofs, or framing.
- E. Unless Architect's attention is directed immediately to any pre-existing latent defects or damages in existing work as they are discovered, the Contractor shall be responsible for same and shall make them good at no additional cost to the Owner.
- F. Execute all work so as to protect all work which is to remain.
- G. Unless frames are indicated to remain, remove doors and frames in their entirety.
- H. Refer to Structural Drawings for additional requirements.

3.05 DISPOSAL:

- A. All removed material, other than that indicated to be relocated or turned over to the Owner, shall become the property of the Contractor.
- B. Remove all such material promptly from the site and legally dispose of at Contractor's expense.

3.06 REMOVAL OF ASBESTOS PRODUCTS:

- A. Should existing asbestos containing materials be encountered during any removal, alteration, cutting or patching work, notify Architect immediately and do not proceed with further work involving the asbestos.
- B. Removal of asbestos has been previously contracted for and is specifically excluded from this Contract.

END OF SECTION



PHASE II RENOVATIONS, STATE HOUSE

SECTION 02100-SITE PREPARATION

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The Conditions of the Contract and applicable Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of Work.

1.02 DESCRIPTION OF WORK:

- A. Provide all labor, material, equipment and services required to perform site preparation as shown and specified. Work includes:
  - 1. Staking out layout and grading.
  - 2. Protection of existing trees to remain.
  - 3. Clearing and grubbing.
- B. Related Work:
  - 1. Stripping of loam; excavation and backfill: Section 02200-Earthwork.

1.03 PERMITS AND CODES:

- A. All work shall comply with applicable codes, ordinances, rules, regulations and laws of all local, municipal, or state authorities having jurisdiction. All work necessary to make site preparation comply with such requirements shall be provided without additional cost to the Owner.
- B. Procure and pay for all permits and licenses required for work under this Section.



## PHASE II RENOVATIONS, STATE HOUSE

- C. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, and other facilities near enough to the work to be affected.

### 1.04 PROJECT CONDITIONS:

- A. Perform site preparation work before commencing site construction.
- B. Restore to original grades and conditions, areas adjacent to site disturbed or damaged as a result of site preparation work.
- C. Protect existing improvements to remain on adjoining properties and on Owner's property.

## PART 2 - PRODUCTS

### 2.01 MATERIALS:

- A. Tree Protection:
  - 1. Fencing: 4' wood snow fence and 8' steel fence stakes.

## PART 3 - EXECUTION

### 3.01 STAKING OUT LAYOUT AND GRADING:

- A. All lines and grades not presently established at the site shall be laid out by the Contractor in accordance with the Drawings. Maintain all established bounds and benchmarks and replace as directed any which are destroyed or disturbed.
- B. Prior to starting any construction work, stake out all limits of cut and fill and centerline of drives, parking areas, walks, etc. Promptly upon completion of layout work and before any clearing or other construction work is begun on the site, notify the Architect, who shall conduct a field inspection of the stakeout. The Architect reserves the right to adjust the location of such layouts as he deems necessary to comply with the intent of the Contract Documents.

### 3.02 PROTECTION OF TREES:

- A. Before commencing other work under this Section, provide protection for trees which are to remain. Arrange a conference on the site with the Architect to identify and mark trees which are to remain. Do no clearing without a clear understanding of existing conditions to be preserved.

## PHASE II RENOVATIONS, STATE HOUSE

- B. Trees which are selected to remain shall be protected by the erection of fencing specified. Fencing shall be placed at the perimeter of the drip line of trees to be saved, and shall be erected prior to any construction or clearing or grubbing on the site. Fencing shall be maintained during full time of construction work on the site and removed when directed by the Architect.
- C. Exercise extreme care during excavation to prevent damage to roots of trees which are to remain. When excavating or grading within the branch spread of trees to remain, do so in a manner which will cause minimum damage to root system, as approved by the Architect. When excavating utility trenches within branch spread of trees to remain, all work shall be done by hand. Open such trenches only when the utility can be installed immediately. Prune the injured roots cleanly and backfill as soon as possible.
- D. When 6" to 18" fills are made over root areas, strip topsoil, place layer of broken stone extending to new subgrade and respread selected topsoil. The area to be treated must extend to 2/3 the diameter of the tree's crown.
- E. Do not use trees to remain for crane stays, guy anchors, or other fastenings. Vehicles shall not be parked within branch spread of trees. Do not stockpile fill or building materials around bases of such trees.
- F. Trees scheduled to remain which are damaged or destroyed by construction activities, and which cannot be returned to normal healthy growth within one growing season shall be replaced by the Contractor with approved species of the same size.
- G. Tree protection materials shall become the property of the Contractor upon removal, following construction.
- H. Shrubs and small trees to be relocated shall be dug and heeled in to a plant storage area on the site, as directed by the Owner. Such plants shall not be disturbed, save watering, until final transplanting operations.

### 3.03 CLEARING:

- A. Clear areas as indicated or required of all trees, plants, stumps, branches and other debris and rubbish. Limits of clearing shall be those areas to be occupied by new buildings, surfaces areas, and limits of cut and fill.
- B. Where overhead lines, private property, life or traffic might be endangered by the felling of a tree in one piece, remove it in sections as large as possible to handle safely.

PHASE II RENOVATIONS, STATE HOUSE

3.04 GRUBBING:

- A. Areas within the limits of clearing, except where fill of more than 4 ft in depth is required, shall be grubbed. Grubbing shall consist of the complete removal of all stumps, brush, roots, timbers, decayed or growing organic material above or below the surface of the ground within the limit of clearing line.
- B. Sticks, stones and roots over 2 in. in any dimension shall be removed from loam designated for stockpiling.
- C. All debris generated by the grubbing operation shall be legally disposed of away from the site. No on-site burning allowed.
- D. Ground surface outside of the clearing limits shall not be unduly disturbed or compacted. Existing ground cover shall be preserved insofar as possible to prevent erosion. The area shall be left neat and clean and in a condition which is reasonably consistent with the surroundings.

END OF SECTION

PHASE II RENOVATIONS, STATE HOUSE

SECTION 02200 - EARTHWORK

FART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The Conditions of the Contract and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, which includes, without limiting the generality thereof:

1. Stripping and stockpiling topsoil.
2. Site grading, excavating and filling to proposed elevations shown on Drawings.
3. Excavating, trenching, subgrade preparation and filling for all curbs and paving including removal of unsuitable materials and replacement as required by Drawings and Specifications herein.
4. Excavating, subgrade preparation and backfilling for all footings and foundations.
5. Erosion and sedimentation control.
6. Furnishing and installing all sheet piling and shoring for excavations as required by Federal, State and municipal laws and ordinances.
7. Performing all pumping and bailing necessary to maintain excavated spaces free from water from any source.
8. Disposal of surplus and/or unsuitable excavated material.
9. Obtain all permits required for items of work of this Section for which the approval of public authorities and/or utilities is required.

B. Related Work Specified Elsewhere:

1. Clearing and grubbing, staking out layout and grading: Section 02100 - Site Preparation.

## PHASE II RENOVATIONS, STATE HOUSE

2. Loaming and Seeding: Section 02900 - Lawns.

### 1.03 References:

- A. The following standards are referenced herein and shall become a part of these specifications:
  - 1. "MDOT" refers to the State of Maine Department of Transportation Standard Specifications Highways and Bridges, latest revision.
  - 2. "ASTM" refers to American Society for Testing and Materials.
  - 3. "AASHTO" refers to American Association of State Highway and Transportation Officials.

### 1.04 SAMPLES AND TESTING:

- A. All fill materials and their placement shall be subject to quality control testing in accordance with requirements of Section 01340 - Quality Assurance; Submittals. All work shall conform to the placing and compaction moisture control requirements determined by these tests.
- B. Provide samples of each fill material from the proposed source of supply, whether on or off site. Allow sufficient time for testing and evaluation of results before material is needed. Submit samples from alternate sources if required. Architect will be sole and final judge of suitability of all material.
- C. Do not use materials in question pending test results. Remove rejected materials and replace with new, acceptable materials, whether in stockpiles or in place.
- D. Maximum density and optimum water content shall be determined for each type of fill in accordance with ASTM D1557, Modified Proctor Method. In-place density of natural soil base and each subsequent layer shall be determined in accordance with ASTM D1556, Density of Soil In Place by the Sand-Cone Method. Other methods must be approved by the Architect. Number of density tests per layer shall be as determined by the Architect.
- E. Cooperate with laboratory in obtaining field samples of in-place materials after compaction. Furnish incidental field labor in connection with such tests.

### 1.05 EXAMINATION OF SITE AND DOCUMENT:

- A. By submitting a bid the Contractor affirms that he has carefully examined the site and all conditions affecting work under this

## PHASE II RENOVATIONS, STATE HOUSE

Section. No claim for additional costs will be allowed for lack of full knowledge of existing conditions.

- B. Plans, surveys, measurements, and dimensions under which the work is to be performed are believed to be correct, but the Contractor shall have examined them for himself during the bidding period, as no additional compensation will be made for errors or inaccuracies that may be found therein.

### 1.06 PERMITS AND CODES:

- A. All work shall conform to the Drawings and Specifications and shall comply with applicable codes and regulations.
- B. Comply with all codes, rules, regulations, laws and ordinances of the City of Augusta, Maine, and of all other authorities having jurisdiction. All labor, materials, equipment and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.
- C. The Contractor shall arrange for and obtain all permits and licenses required for the complete work specified herein and shown on the Drawings. Any fees not waived shall be paid for by the Contractor.
- D. Do not close or obstruct any street, sidewalk, alley, or passageway. So conduct operations as to interface as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, or other facilities near enough to the Work to be affected thereby.

### 1.07 LAYOUT AND GRADES:

- A. Lay out all lines and grade work not previously established under Section 02100, Site Preparation - 3.01. Replace any stakes which have been disturbed.
- B. Provide adequate grade stakes for proper control of all cut and fill operations.
- C. The words "finished grades" as used herein shall mean the required final grade elevations indicated on the Drawings. Spot elevations shall govern over proposed contours. Where not otherwise indicated, provide uniform slopes between points where finished grades are indicated or between such points and existing established grades.
- D. The word "subgrade" as used herein, means the required surface of subsoil, borrow fill or compacted fill. This surface is immediately beneath site improvements, specially dimensioned fill, paving, topsoil or other surfacing material.

## PHASE II RENOVATIONS, STATE HOUSE

### 1.08 DISPOSITION OF EXISTING UTILITIES:

- A. Active utility lines damaged in the course of construction operations shall be repaired or replaced as determined by the Architect without additional cost to the Owner.
- B. Notify the Owner at least three (3) days in advance of the proposed time for shutting down or interrupting utilities or services which may affect operation of adjoining properties. Unless otherwise authorized by the Owner, schedule such interruptions on weekdays before or after Owner's normal working day. In no case shall any services or utilities be interrupted prior to notification and authorization by the Owner.

### 1.09 DRAINAGE AND FROST PROTECTION:

- A. Upon entering the premises the Contractor shall assume responsibility for site and subsurface drainage and shall maintain such drainage during the life of his Contract in a manner acceptable to the Architect, at all times protecting and maintaining the existing conditions in adjacent areas.
- B. Legally remove by pumping, draining or bailing all water which may accumulate or be found on the site within the Contract limits, where excavation and grading are to be done. Excavate and form all pump wells, sumps, dams, flumes or other necessary works to keep trenches and excavations entirely clear of water. Newly made and existing concrete and masonry shall be protected from injury resulting from dewatering work by the use of canvas, tar paper or by such other sufficient method as the Architect may approve. Maintain at all times upon the work, sufficient and satisfactory pumping machinery.

Provide pump wells or well points and underdrains as may be required, where needed to properly handle the water. The final trimming excavation shall not be done until the Architect has approved the manner of dewatering.

- C. Water from trenches and excavations shall be disposed of in such a manner as will not cause injury to public health nor to public or private property, nor to existing work, nor to the work completed or in progress, nor to the surface of roads, walks and streets, nor cause any interference with the use of the same by the public.
- D. Under no circumstances place concrete or fill, lay piping or install appurtenances in excavations containing free water. Keep utility trenches free from water until pipe joint material has hardened.

## PHASE II RENOVATIONS, STATE HOUSE

- E. Frost Protection: Do not excavate to full indicated depth when freezing temperatures may be expected, unless footings or slabs can be poured immediately after the excavation has been completed. Protect the excavation from frost if placing of concrete is delayed.
  - F. The Contractor, free of additional expenses to the Owner shall keep the operations under this Contract clear and free of accumulations of snow within the limits of the Contract line as required to carry out the work.
- 1.10 DUST CONTROL:
- A. The Contractor shall provide acceptable means of controlling and minimizing the amount of dust generated by work under this Contract.
  - B. Calcium chloride will be spread only on disturbed unpaved areas as directed by the Architect. Calcium chloride should not be spread on paved areas that are covered by granular material. These areas shall be swept clean of all granular material.
- 1.11 SHORING AND SHEETING:
- A. Provide shoring, sheeting and/or bracing at excavations, as required, to assure complete safety against collapse of earth at side of excavations.
  - B. Consult with federal, state and local safety regulations or in the absence thereof, with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America.
  - C. Remove sheeting and shoring, etc. as backfilling operations progress, taking all necessary precautions to prevent collapse of excavation sides.
  - D. All sheeting and bracing shall be removed unless ordered by the Architect to be left in place. All sheeting and bracing ordered left in place shall be cut off at least 2 feet below the ground surface unless otherwise ordered by the Architect.
  - E. Methods, designs, and construction sequence proposed by this Contractor shall be designed by a registered engineer and submitted to the Structural Engineer for review at least two weeks before work is to begin. Such review shall not relieve this Contractor of responsibility for the safety and adequacy of the sheeting, shoring and bracing.



PHASE II RENOVATIONS, STATE HOUSE

- F. Subsidence of adjacent property, and other damages resulting from improper design or performances of sheeting, shoring and bracing shall be the responsibility of this Contractor.

1.12 EROSION AND SEDIMENT CONTROL:

A. Temporary Seeding:

- 1. Temporary seeding of annual ryegrass will be required on all loam or other stockpiles and may be required by the Architect in other areas where other methods of erosion control are deemed unsuitable.
- 2. All stripped areas not permanently seeded prior to September 15 shall be seeded with annual ryegrass.
- 3. Annual ryegrass shall be applied at a rate of 2 lbs/1000 SF.

PART 2 - PRODUCTS

2.01 FILL MATERIALS:

A. Gravel Under Pavements:

- 1. Aggregate base material: MDOT 703.06, Type B.

B. Structural Fill:

- 1. Compacted granular fill under footings and floor slabs shall consist of a well-graded, natural soil occurring primarily as a mixture of gravel and sand, conforming to the following gradation:

<u>SCREEN SIZE</u> <u>SQUARE OPENINGS</u>	<u>PERCENTAGE BY WEIGHT</u> <u>PASSING SQUARE MESH SIEVE</u>
3"	100%
#4	30-90%
#40	10-50%
#200	0-8%

## PHASE II RENOVATIONS, STATE HOUSE

### C. Common Fill:

1. All material to be placed where Specifications or Drawings call for "fill", "backfilling", or "rough grading" shall be a natural soil, well-graded and free from all organic, weak, compressible, and frozen materials, and shall contain no stone larger than 6 in. in maximum dimension. It shall be of such nature and character that it can be dried and compacted and shall be free of all expansive materials (such as high plastic clays) and of materials subject to decay, decomposition, or dissolution. Stones larger than 2 inches in maximum dimension shall not be placed within 2 feet of pipes or structures.
2. Common borrow: If sufficient common fill material of approved quality is not available from excavations under the Contract, additional fill shall be brought to the site from other sources. Both excavated material from the site for use as common fill and material brought to the site for use as common fill, shall meet the above requirements.
3. Use common fill as specified where unstable material has been removed; for general grading; as backfill, except as otherwise specified herein; and as rough grading under gravel bases for walks, paved areas and like.

- D. Furnish and place all fill of every kind required under this Contract. Where excavated and stockpiled materials are insufficient or unsuitable for filling work, provide additional suitable material from off-site sources at no extra cost to the Owner.

## PART 3 - EXECUTION

### 3.01 STRIPPING TOPSOIL:

- A. Prior to commencement of earth excavation, strip all topsoil, peat, and organic silt from within areas to be occupied by structures, pavements, steps, lawns, planting, and trenches, as well as all areas to be regraded, or used for construction operations.
- B. Do no stripping without clear understanding of existing soil, planting, and site conditions to be preserved. Topsoil, peat or organic silt encountered during stripping operations shall be stripped to its entire, natural depth, as determined by the Architect.
- C. All topsoil shall be stockpiled in areas as directed by the Architect for use in stockpiling and finish grading. Stockpile topsoil, peat and organic material separately. Topsoil stockpiles shall be seeded with annual rye grass. No topsoil shall be removed from site.

## PHASE II RENOVATIONS, STATE HOUSE

### 3.02 EARTH EXCAVATION:

- A. Dimensions: Excavate to elevations and dimensions indicated on Drawings or required for the Work. Do all necessary excavation, including but not limited to excavation for structures, footings, foundations, grade beams, walls and slabs below grade, paving, utility lines, mechanical work, mechanical and drainage structures, storm drains, yard drains, and other below grade work. Excavate sufficient material so as to allow ample space for construction operations and inspection of excavated areas. Trenches shall be excavated only to proper depth and such widths as will give sufficient room to place the structures, piping, and the like that they are to contain and to allow the proper placement and compacting of backfill.
- B. Classification: All material except "rock" as defined hereinafter, encountered during excavation shall be classified as earth excavation. The sequence of all excavation operations shall be such as to insure the most efficient re-use of excavated materials where suitable. Suitable materials shall be used or stockpiled for later use in backfill and subgrade preparation.
- C. Acceptable surplus excavated material not required to fulfill the requirements of the Contract shall be removed from the site and legally disposed of, as directed by the Architect.

### 3.03 UNANTICIPATED SOIL CONDITIONS:

- A. If unanticipated unsuitable bearing materials are encountered at the specified depths, carry excavation deeper and replace the excavated material with compacted gravel fill or lean concrete as directed by the Architect.
- B. Removal of such material and its replacement as directed will be paid as extra compensation in quantity approved by the Architect at Unit Price per cubic yard stated in the Form for General Bid. Only changes in the work authorized by the Architect in writing shall constitute an adjustment in the Contract Price.

### 3.04 ROCK EXCAVATION:

- A. Rock, as herein defined, encountered within the limits of excavation shall be removed as necessary in accordance with the Conditions of Contract, and as further specified herein.
- B. The following items, if they cannot be broken and removed by power excavating equipment and require the use of drills or explosives, are hereby defined as rock excavation.

PHASE II RENOVATIONS, STATE HOUSE

1. Rock or stone in original ledge.
  2. Hard shale in original ledge.
  3. Boulders on site, outside foundation or trench limits exceeding two (2) cubic yards in volume.
  4. Boulders within the foundations or trench limits exceeding one (1) cubic yard in volume.
  5. Foundation stones or mass concrete greater than two (2) cubic yards in volume.
- C. All other material is classified as "earth excavation" insofar as removal of the material to be excavated is concerned. Removal of paving and paving foundations is classified as earth excavation.
- D. When rock is encountered during excavation, it shall be uncovered and exposed, and the Architect notified by the Contractor before work proceeds. The area in question shall then be measured as indicated below and payment determined. Excavation of material in question before agreement by the Architect as to the character of the material, or failure to notify the Architect or to take measurements, will forfeit the Contractor's right of claim to extra payment. The quantity of rock to be removed shall be based on the pay line limits established below. Where removal of boulder or ledge is required outside the established pay lines, the extent of such removal and basis of payment shall be as determined by the Architect.
- E. Excavate rock encountered in grading under paved areas, lawns and plant beds as specified herein.
- F. Where rock excavation is carried below depths and dimensions indicated or specified in paved areas, the Contractor shall, at his own expense, furnish and install 2000 psi structural concrete, as specified under Concrete Section to the required level. Where lawn or planting work is to be done, fill shall be ordinary fill as specified.
- G. Excavated rock meeting the specified requirements for fill, may be so used, subject to the Architect's approval.
- 3.05 BLASTING:
- A. Obtain written permission and approval of method from local or governing authority, as required, before proceeding with blasting. Notify Architect at least 48 hours before intended blasting and do no blasting without his approval.

## PHASE II RENOVATIONS, STATE HOUSE

- B. Contractor shall present evidence that his insurance includes coverage for blasting operations before doing any blasting work.
- C. Blasting shall be done under the supervision of experienced blasting engineers. Maintain accurate records including location of each blast, total explosive weight in each blast, maximum explosive weight per delay (or explosive weight in each blast hole and designation of delay cap used in each hole).
- D. Blasting shall be so designed and carried out that peak particle velocity does not exceed 2 in. per second at Contract limit line, nor 4 in. per second at new construction or laid utility piping this Contract.
- E. Explosives shall be stored, handled and employed in accordance with state and local regulations, or, in the absence of such, in accordance with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc.
- F. All rock blasting shall be well covered with heavy mats or timbers chained together and the Contractor shall take great care to do no damage to existing buildings, foundations, glazed areas and trees to remain. All damage caused by Contractor's blasting operations shall be repaired to the full satisfaction of the Architect at no additional cost to the Owner.

### 3.06 ROCK MEASUREMENT:

- A. Engineer: An approved registered Professional Engineer or Land Surveyor shall be retained by the Contractor to take cross-sections of rock before removal and make computations of volume of rock to be excavated within the payment lines. Cross-sections shall be taken in the presence of the Project Representative and the computations approved by the Architect.
- B. Measurements: The following rules of measurements for rock excavation shall apply for the items listed:
  - 1. Two feet outside of concrete work for which forms are required, except footings.
  - 2. One foot outside perimeter of footings.
  - 3. In pipe trenches, 6" below invert elevation of pipe and 2 ft. wider than inside diameter of pipe, but not less than 3 ft. minimum trench width.
  - 4. Neat outside dimensions of concrete work where no forms are required.

## PHASE II RENOVATIONS, STATE HOUSE

5. Under slabs on grade, 6" below bottom of concrete slab.

### 3.07 PREPARATION OF AREAS TO RECEIVE FILL:

- A. In addition to removal of all topsoil, all areas to be filled shall be free of all vegetation, rubbish, boulders, compressible or decayable materials, standing water, subsoil, fill, etc., except as otherwise directed by the Architect.
- B. Scarify, spotfill, or otherwise treat the surface of areas to receive fill as necessary to remove holes, depressions, ruts, hummocks, or other uneven features.
- C. Architect's Representative or Soils Engineer shall inspect surface prior to starting filling operations.
- D. Subgrade preparation in area of building:
  1. All bearing surfaces to support footings, floor slabs, or compacted granular fill shall remain undisturbed prior to the time concrete or fill is placed. The excavation to grade should be carried out with care and under controlled conditions.
  2. Overexcavate glacial till subgrades which contain appreciable quantities of cobbles or boulders to a depth of approximately 6 in.; overexcavated materials should be replaced with compacted granular fill.
  3. Do not allow travel across footing bearing surfaces.
  4. Recompect bearing surfaces with hand-guided vibratory compaction equipment if disturbed prior to placing concrete.
  5. Protect frost-susceptible soil subgrades from freezing.

### 3.08 PLACING AND COMPACTION OF FILL:

- A. Fill material shall be placed in horizontal layers not to exceed 8 in. in depth before compaction. Each layer shall be spread evenly at right angles to previous layer and shall be thoroughly blade-mixed during spreading to insure uniformity of material in each layer. Architect's Representative shall observe each layer before next layer is placed.
- B. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of a day's operation. In no case place fill over frozen material nor incorporate frozen material in any fill. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the moisture

PHASE II RENOVATIONS, STATE HOUSE

content and the density of the previously placed fill are as specified.

- C. Compaction: Fill shall be compacted in individual layers in accordance with the following requirements:
- |                                       |                      |
|---------------------------------------|----------------------|
| 1. Unstable excavated areas           | 98% max. dry density |
| 2. Under building slab                | 95% " " "            |
| 3. Under paved areas, top 12 inches   | 95% " " "            |
| 4. Under paved areas, below 12 inches | 90% " " "            |
| 5. Top 6" of subgrade for lawn area   | 90% " " "            |
- D. Compaction shall be by mechanical means designed specifically for compaction and approved by the Architect. The Architect reserves the right to disapprove any device of inadequate capacity or, in his opinion, of type unsuited to the character of material being compacted. In areas which are too restricted to permit the use of heavy equipment, fill may be placed in 3 in. layers and compacted by hand rammer or mechanical tamper to required density or, in the case of drainage fill, to same degree of compaction as would be produced by the specified compaction procedure.
- E. Where tests indicate that fill does not conform to the compaction density specified, the fill shall be removed and replaced with conforming materials without additional cost to the Owner.
- F. If moisture content of fill material is below the amount needed to create the required density, the fill shall be thoroughly disked to assure uniform distribution, and the needed amount of water added. Similarly, if the moisture content is above the amount needed to create the required density, the fill shall be aerated by blading or other method until the moisture content of the fill material is satisfactory. In restricted areas use granular materials to achieve maximum density with minimum working or material.

3.09 STRUCTURE BACKFILLING:

- A. Once a subgrade is approved by the Engineer, the Contractor shall place the required fill material over the subgrade to protect the bearing soils. Fill materials shall be as shown on the Drawings or as specified herein.

## PHASE II RENOVATIONS, STATE HOUSE

- B. Backfilling shall be carried up evenly on all walls of a structure simultaneously. A variation of two feet in elevation at any point will be the maximum allowable. No backfill shall be allowed against walls one side only until they and their supporting slabs, if applicable, have attained their 28-day strength. Backfill materials against walls shall be common fill unless otherwise shown on the Drawings or specified herein.
- C. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of the day's operations. Prior to terminating work for the day, the final layer of compacted fill shall be rolled or graded to eliminate ridges of soil left by compaction equipment. No fill shall be placed and compacted on snow, ice, or soil that was permitted to freeze prior to compaction.
- D. Backfill in all other areas not specifically mentioned above or shown on the Drawings shall be with common fill.

### 3.10 ROUGH GRADING:

- A. Do all grading required for the Work including shaping, trimming, rolling and finishing of the surface of the subgrades for topsoil and paved surfaces. The grading of shoulders and sloped areas may be done by machine methods. Up to 2 in. in 10 ft-0 in. tolerance will be permitted on slopes over 2 percent, and 1 in. in 10 ft-0 in. on slopes under 2 percent provided the slopes are uniform in appearance and without abrupt changes. All ruts shall be eliminated. Grading of subgrades for paved areas shall be finished at the required depth below and parallel to the proposed surface within 1/4 in. in 10 ft-0 in. tolerance.
- B. If, during the progress of rough grading work, any water pipe, sewer, conduit, drain, or other construction is damaged as a result of operations under this Contract, the Contractor shall repair all such damage at no additional cost to the Owner and restore work to its original condition.
- C. Do all other cutting, filling and rough grading to the lines and grades indicated on the Drawings. Grade evenly to the grades required herein and as shown on the Drawings. No stone larger than 3 in. in largest dimension shall be placed in upper 6 in. of fill.
- D. Grading shall be brought to bottom of base course under paved areas, to 4 in. below finish grade in lawn areas and to 12 in. below finish grade in plant beds.
- E. Complete grading operations after the utilities have been installed, building foundations and site improvements constructed, and all



## PHASE II RENOVATIONS, STATE HOUSE

materials, rubbish and debris removed from the site. Leave subgrade for lawns clean and at required grades. Provide sufficient grade staking to witness correct lines and grades, as determined by the Architect.

- F. Wherever streets, lawns, or sidewalks within or outside the limit of Contract lines have been excavated in fulfilling the work required under this Contract, the Contractor shall furnish and install all material necessary to bring finish surface level with the existing adjacent surfaces. All work shall be installed to match the existing conditions in accordance with the governing authority. Notify the proper authorities prior to restoring surfaces outside the limit of Contract line.

### 3.11 MAINTENANCE:

- A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.
- C. Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

### 3.12 DISPOSAL OF EXCESS AND WASTE MATERIALS:

- A. Remove excess excavated material, trash, debris and waste materials and dispose of it off Owner's property.

END OF SECTION

PHASE II RENOVATIONS, STATE HOUSE

SECTION 02500 - BITUMINOUS PAVING, CURBS AND SPEED BUMPS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The Conditions of the Contract and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, which includes, but is not restricted to, the following:
  - 1. Bituminous Concrete Patching.

1.03 REFERENCES:

- A. Applicable specifications and publications, referred to herein, form a part of these Specifications:
  - 1. State of Maine Department of Transportation Standard Specifications Highways and Bridges, latest edition (MDOT).

PART 2 - PRODUCTS

2.01 BITUMINOUS CONCRETE:

- A. Bituminous concrete shall be an approved hot plant mix composed of:
  - 1. Asphalt cement (MDOT 702.01).
  - 2. Aggregate (MDOT 703.09): Grading "C"

PART 3 - EXECUTION

3.01 INSTALLATION OF BITUMINOUS CONCRETE PAVING:

- A. Repair bituminous concrete paving for parking area according to the requirements of MDOT 401.07 through 401.20.

END OF SECTION



**SECTION 02520 - UNIT PAVERS (CASH ALLOWANCE)**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

- 1. Unit pavers as indicated.
- 2. Fine cutting and trim of subgrade as required.
- 3. Setting bed, other accessories as required.

- B. Related Work Specified Elsewhere:

- 1. Site preparation: SECTION 02100.
- 2. Subgrade, other than fine cutting and trim for unit pavers: SECTION 02200 - EARTHWORK.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be effected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 CASH ALLOWANCE:**

- A. The Contract Price shall include the Cash Allowance as specified under SECTION 01010 - SUMMARY OF WORK, for the furnishing and installation of following:

- 1. Unit pavers as indicated.
- 2. Fine cutting and trim of subgrade.
- 3. Setting bed and accessories.

- B. The Cash Allowance shall be the net amount available for purchase, delivery and installation of Unit Pavers as selected, and *shall not* include charges for the following, which shall be deemed to have been included in the Contract Price exclusive of the Cash Allowance.
    - 1. Contractor's charges for overhead and profit.
    - 2. Losses or damages to the paving after installation.
  - C. Contractor shall award a subcontract for the furnishing and installing of unit paving, as directed or approved by the Owner or Architect. Refer to SECTION 01010 for additional requirements covering Cash Allowances.
- 1.03 QUALITY ASSURANCE; SUBMITTALS:
- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
  - B. Product Data: Provide product data for unit pavers and associated materials.
  - C. Test Reports: Submit laboratory test reports unit pavers and associated materials.
  - D. Samples: Submit samples as directed.

PART 2 - PRODUCTS AND EXECUTION:

- A. Provide Unit Paver installation complete as designed and specified by Architect at a later date under the specified Cash Allowance.

END OF SECTION

PHASE II RENOVATIONS, STATE HOUSE

SECTION 02530 - GRANITE CURBING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The Conditions of the Contract and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, which includes, but is not restricted to, the following:

- 1. Granite curbing.

- B. Related Work: The following work is not included in this Section and is to be performed under the designated Sections:

- 1. Base courses for granite curbs: Section 02200 - Earthwork.

1.03 REFERENCES:

- A. Applicable specifications and publications, referred to herein, from a part of these Specifications:

- 1. State of Maine Department of Transportation Standard Specifications Highways and Bridges, latest edition (MDOT).

PART 2 - PRODUCTS

2.01 GRANITE CURBING:

- A. 4 in. x 16 in. Vertical Granite Curb shall be gray granite as provided by H.E, Fletcher Company, W. Chelmsford, MA or approved equal. Top shall be saw cut, exposed face shall be smooth split face.

PART 3 - EXECUTION

3.01 INSTALLATION OF GRANITE CURB:

- A. Granite Curb shall be installed in accordance with MDOT 609.03, Vertical Stone Curb, and as shown on the Drawings.

END OF SECTION



PHASE II RENOVATIONS, STATE HOUSE

SECTION 02900 - LAWNS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The Conditions of the Contract and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, which includes, without limiting the generality thereof:

1. Preparation of subgrade in areas to receive topsoil.
2. Supply and place topsoil and finish grade for seeded areas, including restoration work.
3. Seeding by mechanical or hydraulic spray method.
4. Protecting and maintaining all seeded areas until Final Acceptance.
5. Cleaning up.

- B. Related Work: The following work is not included in this Section and is to be performed under the designated Sections:

1. Clearing and grubbing: Section 02100 - Site Preparation.
2. Grading of subgrade, stripping and stockpiling topsoil: Section 02200 - Earthwork.
3. Planting of trees and shrubs: Section 02950 - Planting.

1.03 SUBMITTALS:

- A. Samples of any material shall be submitted for inspection and approval upon the Architect's request. Analyses shall be certified by the manufacturer, dealer or testing laboratory, whichever is appropriate. Samples shall include the following.

1. Commercial Fertilizer: 1 lb bag showing analysis.



PHASE II RENOVATIONS, STATE HOUSE

2. Ground Limestone: 1 lb bag showing analysis.
3. Topsoil: 1 cu yd/from each source/test samples showing and amendment recommendations.
4. Seed: 1 pint/test lot showing analysis.

1.04 QUALITY ASSURANCE:

- A. All work under this Section shall be performed by workmen experienced in lawn installation under the full time supervision of a qualified foreman.

1.05 STORAGE OF MATERIAL:

- A. Deliver material to the site in original unopened packages, showing weight, manufacturer's name and guaranteed analysis.
- B. Store materials in such a manner that their effectiveness and uneability will not be diminished or destroyed and shall be uniform in composition, dry, unfrozen and free flowing. The Architect reserves the right to reject any material which has become caked or otherwise damaged or does not meet specified requirements.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. Suitable stockpiled topsoil shall be entirely reused in this contract. If additional topsoil is required for the work of this Section it shall be from approved off-site sources. Provide topsoil for seeding of all disturbed areas within or outside the Contract limit line.
- B. Topsoil borrow shall be a natural, fertile, friable loam, typical of cultivated topsoils of the locality, containing at least 3 percent and not more than 20 percent organic matter. Topsoil shall be taken from a well-drained, arable site and shall be good, rich, uniform grade without admixtures of subsoil, stones, earth, clods, sticks, stumps, clay lumps, roots or other objectional extraneous matter or debris.
- C. Before any topsoil is delivered to the site, submit a sample of one cubic yard of topsoil from each source of supply for Architect's inspection and approval. Delivery may begin upon such approval. The approved sample shall be stored on the site until the supply from its source is exhausted or until no more topsoil is required.

## PHASE II RENOVATIONS, STATE HOUSE

- D. Representative samples of stockpiled topsoil and topsoil borrow shall be tested for acidity, fertility and general texture by a recognized commercial or government agency. Furnish copies of the testing agency's report of findings and recommendations to the Architect.
- E. The Contractor shall make any and all additions to or amendments to topsoil as required to remedy any deficiency shown in these tests.
- F. No topsoil shall be delivered in a frozen or muddy condition.

### 2.02 TOPSOIL ADDITIVES:

- A. Commercial Fertilizer: Shall be a complete fertilizer and shall be a standard product complying with the State and United States fertilizer laws. Fertilizer shall be delivered to the site in the original unopened containers which shall bear the manufacturer's name and guaranteed statement of analysis. At least 40 percent by weight of the nitrogen content of the fertilizer shall be derived from organic materials. Fertilizer for lawn areas shall contain not less than 10 percent nitrogen, 6 percent phosphorus, and 4 percent potash by weight of ingredients or as otherwise indicated by topsoil test results.
- B. Superphosphate: Shall be finely ground phosphate rock as commonly used for agricultural purposes and shall contain not less than 18 percent available phosphoric acid.
- C. Ground Limestone: Shall be dolomitic limestone and contain not less than 85 percent of total carbonates and magnesium and shall be ground to such fineness that 50 percent will pass a 100 mesh sieve and 90 percent will pass through a 20 mesh sieve. Coarser material will be accepted provided the specified rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve.
- D. Water: Shall be furnished by the Contractor. Hose and all other watering equipment required for the work shall be furnished by the Seeding Contractor.

### 2.03 SEED:

- A. Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an approved method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Architect the dealer's guaranteed statement of

PHASE II RENOVATIONS, STATE HOUSE

the composition of the mixture and the percentage of purity and germination of each variety.

- B. Seed shall be purchased from a recognized distributor and shall be composed of the following varieties mixed in the proportions indicated or other approved mix. Seed shall test to minimum percentages of purity and germination specified.

C. Lawn Seed Mixture:

Name	Proportion by Weight	%Germination
Palmer Perennial Ryegrass	20%	90
Jamestown Chewings Fescue	20%	85
Kentucky Bluegrass	30%	80
Baron Kentucky Bluegrass	30%	80

Seed shall be sown at the rate of four (4) pounds per 1,000 sq ft. minimum.

2.04 MULCH:

- A. New crop dry long fibered hay or straw, reasonably free from noxious weeds and other undesirable material, if mechanical method is used.
- B. Conwed Hydro Mulch Fibers by Conwed Corp., P.O. Box 43237, St. Paul, MN, or approved equal, if hydraulic spray method is used.

PART 3 - EXECUTION

3.01 PREPARATION OF SUBGRADE:

- A. After Architect's acceptance of subgrade work performed under Earthwork Section, do whatever additional grading is necessary to bring the subgrade to a true, smooth slope parallel and except where otherwise indicated, four (4) inches below grade for all areas to receive topsoil. Other subgrades shall be as indicated.
- B. Immediately before placing topsoil, harrow or otherwise loosen the surface of the subgrade to depth of 3 in. Subgrade shall be inspected and approved by the Architect before placing of topsoil.
- C. Provide and set sufficient grade stakes, as determined by the Architect, to insure correct line and grade of finish grade.

## PHASE II RENOVATIONS, STATE HOUSE

### 3.02 PLACING TOPSOIL:

- A. Place and spread topsoil over approved areas to a depth sufficiently greater than the depth required for seed areas so that after natural settlement and light rolling, the complete work will conform to the lines, grades and elevations indicated, and shall assure proper drainage in an uninterrupted pattern free of hollows and pockets. Supply additional topsoil as needed to give the specified depth under the Contract without additional costs to the Owner.
- B. After topsoil has been spread, prepare it carefully by scarifying or harrowing and raking. Remove all stiff clods, lumps, brush, roots stumps litter and other foreign material and stones over one inch in diameter and dispose of legally off the site. Topsoiled areas shall also be free of smaller stones in excessive quantities as determined by the Architect. Roll the entire surface with a hand roller weighing approximately one hundred pounds per foot of width. During the rolling fill all depressions caused by settlement with additional topsoil and then regrade and roll until the surface presents a smooth, even and uniform finish and is up to the required grade.

### 3.03 APPLICATION OF TOPSOIL ADDITIVES:

- A. Applying Fertilizers: Apply commercial fertilizer and work thoroughly into the topsoil in two applications. The first application shall be within one week before the seeding, at the rate of thirty-five pounds per thousand square feet, harrowed into the top two inches of seed bed. The second application shall be as determined by the test results.
- B. Applying Superphosphate: Incorporate superphosphate into the topsoil with the first application of commercial fertilizer at the rate of twenty pounds per thousand square feet or at the rate determined from the test results.
- C. Applying Ground Limestone: After the topsoil has been spread and graded, and, if recommended as a result of the soil analysis, apply ground limestone at the rate of 50 pounds per one thousand square feet or at the rate recommended by the testing laboratory.

### 3.04 SEEDING SEASON:

- A. The dates for seeding shall be April 1 to June 1 and August 15 to September 15.

## PHASE II RENOVATIONS, STATE HOUSE

- B. Seeding at any time other than within the above season shall be allowed only when ordered by the Architect or when the Contractor submits a written request for permission to do so and permission is granted. Newly seeded areas, must be continuously watered according to good practice if seeding is done between June 1 and August 15. Regardless of the time of seeding, the Contractor shall be responsible for each seeded area until it is accepted as hereinafter specified.

### 3.05 SOWING OF SEED:

- A. Seeding: Seeding shall consist of soil preparation, seeding raking, rolling, weeding, watering and otherwise providing all labor and materials necessary to secure the establishment of acceptable turf.
- B. Sowing of Seed, Mechanical Method: Immediately before any seed is sown, the ground shall be scarified, harrowed and raked until the surface is smooth, friable, and of uniformly fine texture. No seeding shall be done during windy weather. Sow seed in two directions at right angles to each other. Sow the seed evenly with approved seeding device at the rate of four (4) pounds per 1000 sq ft. Cover seed with a thin layer of topsoil by light raking or other approved method, roll in both directions with a hand roller weighing approximately one hundred pounds per foot of width. Spread uniform layer of specified mulch over all seeded areas at the rate of 1 to 2 tons per acre.
- C. Sowing of Seed, Hydraulic Method: At the option of the Contractor, the specified seed, fertilizer, mulch and water may be applied in accordance with MDOT 618.07.

### 3.06 WATERING:

- A. Water newly seeded areas daily or as necessary to maintain moisture to a minimum depth of 5 in. with a fine spray to supplement natural rainfall.

### 3.07 MAINTENANCE:

- A. Maintenance shall begin immediately after each portion of lawn is seeded and shall continue in accordance with the following requirements.
- B. Lawns shall be maintained by the Contractor for at least 30 days or as much longer as necessary to establish a uniform, thick, well developed stand of the specified grasses, or until acceptance, whichever is later.

PHASE II RENOVATIONS, STATE HOUSE

- C. Scattered bare spots, none of which are larger than 36 sq in., will be allowed up to a maximum of two percent of any lawn area. After the grass has started, all areas and parts of areas which fail to show a uniform thick and well developed stand of grass, for any reason whatsoever, shall be reseeded repeatedly until all areas are covered with a satisfactory growth of grass. Prior to Acceptance, damage resulting from erosion, gulleys, washouts, or other causes shall be repaired by filling with topsoil, tamping, refertilizing and re-seeding. At time of first cutting, mower blades shall be kept not less than two and one-half inches high. Continue cutting until acceptance or not to exceed a total of three cuttings.

3.08 INSPECTION FOR ACCEPTANCE AND CLEANUP:

- A. Upon written request by the Contractor, the Architect shall inspect all lawn areas to determine completion of Contract work. This request must be submitted at least ten days prior to the anticipated date. The lawns will become acceptable when they show a uniform, thick, well developed stand of grass.
- B. Furnish full and complete written instructions for maintenance of the lawns to the Owner at the time of acceptance.
- C. Architect's inspection shall determine whether maintenance shall continue in any part.
- D. After all necessary corrective work has been completed, and maintenance instructions have been received by the Owner, the Architect will certify in writing the acceptance of the lawns. The Contractor's responsibility for maintenance of lawns or parts of lawns shall cease on receipt of acceptance.

END OF SECTION



PHASE II RENOVATIONS, STATE HOUSE

SECTION 02950 - PLANTING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The Conditions of the Contract and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof includes:

1. Providing additional topsoil as required.
2. Furnishing and installing, including excavating, for all plant material as indicated on the Drawings.
3. Preparing planting areas with planting mixture, including topsoil.
4. Providing and installing all accessory materials.
5. Pruning, mulching, and watering.
6. Maintenance and guarantee.
7. Final clean-up.

- B. Related Work: The following work is not included in this Section and is to be performed under the designated Sections:

1. Topsoil for seeded areas, fine grading and seeding: Section 02900 - Lawns.

1.03 SUBMITTALS:

- A. Samples of any material shall be submitted for inspection and approval upon the Architect's request. Analyses shall be certified by the manufacturer, dealer or testing laboratory, whichever is appropriate. Samples shall include the following.



PHASE II RENOVATIONS, STATE HOUSE

1. Planting Mixture: 1 pint/test lot showing analysis and amendment recommendations.
2. Commercial Fertilizer: 1 lb bag showing analysis, weight, and date of shipment.
3. Peat Moss: 1 lb bag with label.
4. Manure: 1-lb bag with label.
5. Pine Bark Mulch: 1 cu yd.

1.04 QUALITY ASSURANCE:

- A. All work under this Section shall be performed by experienced workmen familiar with planting procedures and under the full time supervision of a qualified foreman.

1.05 INSPECTION OF PLANTS:

- A. Plants shall be subject to inspection and approval at the place of growth for conformity to specification requirements as to quality, size, and variety. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.
- B. Notify the Architect in writing upon the selection of a planting subcontractor. State the name, address, telephone number and planting foreman of the planting subcontractor.
- C. Notify the Architect three (3) business days prior to the proposed arrival of plant material on site.
- D. Arrange for adequate manpower and equipment on site at the time of plant material inspection and installation to provide a complete staked layout and to unload, open and handle plant material during inspection.
- E. All plants shall be accompanied by State Nursery Inspection Certificates.

PHASE II RENOVATIONS, STATE HOUSE

PART 2 - PRODUCTS

2.01 PLANTS:

- A. Furnish and plant all plant material shown on the Drawings and listed thereon. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project, and shall conform to the varieties and sizes specified. Plants shall conform also to the botanical names and standards of size, culture and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard for Nursery Stock, ANSI Z60.1 - latest edition. All plants shall be legibly tagged with proper botanical names.
- B. Attention is called to the fact that the scientific and common names used for plants required under this Contract are generally in conformity with the approved names given in the Standardized Plant Names published by the American Joint Committee on Horticultural Nomenclature. The names of varieties not included therein are generally in conformity with the names accepted in the nursery trade.
- C. All plants shall be freshly dug. No heeled-in plants or plants from cold storage shall be used. All plants shall be typical of their species or variety and shall have a normal habit of growth. Plants shall be sound, healthy, and vigorous, well-branched and densely foliated when in leaf; shall be free of disease, insect pests, eggs or larvae; and shall have healthy, well-developed root systems. All parts of the plant shall be moist and shall show active green cambium when cut, and shall be free from dead wood, bruises or other root or branch injuries.
- D. Container-Grown Stock shall have been grown in a container long enough for the root system to have developed sufficiently to hold its soil together, firm and whole. No plants shall be loose in the container.
- E. Substitutions: When plants of kinds or size specified are not available within a reasonable distance, substitutions may be made upon request by the Contractor, if approved in writing by the Architect.
- F. Plants larger than those specified in the Plant List may be used if approved by the Architect, but use of such plants shall not increase the Contract Price. If the use of larger plants is approved, the spread of roots or ball of earth shall be increased in proportion to the size of the plant.

PHASE II RENOVATIONS, STATE HOUSE

- G. The height of the trees, measured from the crown of the roots to the top of the top branch, and the caliper, measured as specified herein, shall not be less than the minimum size designated in the Plant List. Except when a clump is designated, the trunk of each tree shall be a single trunk growing from a single unutiliated crown of roots. No part of the trunk shall be conspicuously crooked as compared with normal trees of the same variety. The trunk shall be free from sunscald and frost cracks. No wounds shall be present having a diameter of more than 2 in. and such wounds must show vigorous bark on all edges. Evergreen trees shall be branched to within one foot of the ground.
- H. Take caliper measurement 6 in. above ground on trees 4 in. or less, all others at 12 in. above ground.
- I. Shrubs and small plants shall meet the requirements for spread and/or height stated in the Plant List. The measurements for height are to be taken from the ground level to the average height of the top of the shrub and not to the longest branch. The thickness of each shrub shall correspond to the trade classification "No. 1". Single stemmed or thin plants will not be accepted. The side branches must be generous, well-twigged, and the plant as a whole well-branched to the ground. The plants must be in a moist vigorous condition, free from dead wood, bruises, or other root or branch injuries.

2.02 TOPSOIL:

- A. All topsoil shall fulfill the requirements as specified under Section 02900 - Lawns.
- B. No topsoil shall be delivered in a frozen or muddy condition.

2.03 SOIL CONDITIONERS:

A. Fertilizer:

- 1. Fertilizer shall be a complete fertilizer, part of the elements of ingredients as follows, unless soils test indicate a need for different composition as determined by the Architect:

	<u>Nitrogen</u>	<u>Phosphorus</u>	<u>Potash</u>
Deciduous Trees & Shurbs	8%	6%	4%
Evergreen Trees & Shurbs	5%	10%	7%

## PHASE II RENOVATIONS, STATE HOUSE

2. Fertilizer shall be delivered, mixed as specified, in original unopened standard size bags showing weight, analysis and name of manufacturer. Store in a weatherproof place and in such a manner that it will be kept dry and its effectiveness will not be impaired.

### B. Manure:

1. Manure shall be well-rotted, unleached cattle manure, free of harmful chemicals and other injurious substances. Manure shall be free of sawdust and refuse of any kind and shall not contain more than 25 percent of straw, shavings, leaves or other material.
2. Manure shall not be more than two (2) years nor less than nine (9) months old.

- ### C. Peat Moss: Domestic brown sphagnum peat, free of woody materials and of mineral matter such as sulphur and iron, and shall have a pH value between 4 and 5. Deliver air dry. It shall be shredded and free from all stones, roots and twigs.

- ### D. Weed Retarder: "Garden Weeder" by Am Chem Products, Inc., or approved equal, delivered in manufacturer's instructions.

- ### E. Anti-Dessicant: "Wilt-Pruf", available from Nursery Specialty Products, Inc., New York, N.Y., or equal, delivered in manufacturer's containers and used according to the manufacturer's instructions.

- ### F. Mulch: Shall be 100 percent pine bark product furnished in truckload quantities. It shall be coarse enough to allow water penetration without washing or blowing away.

## 2.04 ACCESSORY MATERIALS:

- ### A. Stakes: For supporting trees shall be of sound cedar stakes, uniform in size, reasonably free of knots, and capable of standing in the ground at least two (2) years. Stakes shall be nominally 2 in. x 2 in. and not less than 8 ft-0 in. in length.
- ### B. Wire: For tree bracing and guying shall be pliable 12-gauge galvanized soft steel wire, as shown on Details.
- ### C. Cable and Fittings: Cable shall be 3/16 in. diameter, 7 strand cadmium-plated cable. Cable clamps shall be galvanized steel of size and gauge to provide tensile strength equal to that of the cable.

## PHASE II RENOVATIONS, STATE HOUSE

- D. Ground Anchors: Universal anchors as manufactured by Laconia Malleable Iron Works, Laconia, N.H., or equal. Sizes shall be in accordance with the manufacturer's recommendations.
  - E. Hose: Two-ply fiber-bearing garden hose, not less than 1/2 in. inside diameter, 12 in. long.
  - F. Wrapping Material: Duplex, waterproof kraft paper crinkled to 33-1/3 percent stretch or equal.
  - G. Tree Wound Paint: Waterproof, adhesive and elastic antiseptic and free from kerosene, coal, tar, creosote or any other material injurious to the life of the tree. It shall be approved in writing by the Architect prior to use.
- 2.05 WATER:
- A. Water shall be furnished by the Contractor. Hose and other watering equipment required for the work shall be furnished by the Planting Subcontractor.

### PART 3 - EXECUTION

#### 3.01 DIGGING, HANDLING, AND PROTECTION OF PLANTS:

- A. Balled and burlapped (B & B) plants shall be dug with firm natural balls of earth, of sufficient diameter and depth to include the fibrous roots and conforming to the standards of the American Nurserymen Association. No plant moved with a ball will be accepted if the ball is cracked or broken before or during planting operations.
- B. Roots or balls of all plants shall be adequately protected at all times from sun and from drying winds.
- C. All balled and burlapped plants which cannot be planted immediately upon delivery shall be set on the ground and shall be well protected with soil, wet moss, or other acceptable materials.

#### 3.02 DELIVERY AND STORAGE:

- A. All plants shall be transported to the site in closed or covered trucks.
- B. Deliver materials to the site in original unopened packages, showing weight, manufacturer's name and guaranteed analysis.

PHASE II RENOVATIONS, STATE HOUSE

- C. Store materials in such a manner that their effectiveness as approved by the Architect will not be impaired.
- D. The Architect reserves the right to reject any material which has become caked or otherwise damaged. Materials shall be uniform in composition, dry and free flowing.

3.03 PREPARATION OF PLANTING MIXTURE:

- A. Topsoil mixture for planting backfill in all planted areas shall be prepared on site in the proportions shown on the Drawings.
- B. All amendments shall be thoroughly incorporated into the topsoil to assure even distribution.
- C. Topsoil mixture shall have fertilizer incorporated with it in accordance with laboratory test recommendations, and as directed by the Architect.

3.04 PLANTING SEASON:

- A. Planting Season: Unless otherwise directed by the Architect, the planting seasons shall be those indicated below. No planting shall be done in frozen or muddy ground or when snow covers the ground, or the soil is otherwise in an unsatisfactory condition for planting:
  - 1. Potted and Container Grown Plants: April 15 to November 1
  - 2. Balled and Burlapped Plants: April 15 to October 15
- B. All plants planted out of season shall receive special attention as directed. Any out-of-season planting shall be at the Contractor's risk and expense.

3.05 OBSTRUCTIONS BELOW GROUND:

- A. In the event that rock, underground construction work, or other obstructions are encountered in any plant pit excavation work under this Contract, alternate locations may be selected by the Architect at no additional cost to the Owner.
- B. Where locations cannot be changed, the obstruction shall be removed, subject to Architect's approval, to a depth of not less than three (3) feet below grade and no less than six (6) inches below bottom of ball or roots when plant is properly set at the required grade.

PHASE II RENOVATIONS, STATE HOUSE

- C. Planting Contractor shall be paid extra for the removal of such rock or underground obstructions encountered at the rate per cubic yard indicated in Unit Prices.

3.06 PLANTING OPERATIONS:

- A. Locations: Stake out locations of all plants and secure the Architect's approval before excavating plant pits.

- B. Excavating:

1. All plant pits shall be excavated with vertical sides.
2. Tree pits shall be two (2) feet greater in diameter than the ball of earth or spread of roots of the tree and sufficiently deep to allow for a six (6) inch thick layer of prepared planting mixture beneath the balls or roots of all plants. Furnish and install all planting mixture required for shrub pits.
3. Shrub pits shall be one (1) foot greater in diameter than the spread of the roots and sufficiently deep to allow a minimum of four (4) inches of prepared planting mixture beneath the balls or roots of all plants. Furnish and install all planting mixture required for shrub pits.

- C. Setting and Backfilling:

1. Plant pits shall not be backfilled until they have been approved by the Architect. If pits are prepared and backfilled to grade prior to planting, their location shall be marked and recorded on the plans so that when planting proceeds they can readily be found.
2. Plants shall be set in center of pits plumb and straight and at such a level that after settlement, the base of the plant will be at the surrounding finished grade. Root ball shall not be broken.
3. When balled and burlapped plants are set, topsoil shall be compacted around bases of balls to fill all voids. All burlap, ropes or wires shall be removed from the upper third of balls. (Non-rot burlap or plastic wrap shall be entirely removed).

## PHASE II RENOVATIONS, STATE HOUSE

4. Topsoil mixture around balls shall be thoroughly compacted and watered. Immediately after plant pit is backfilled, a shallow basin slightly larger than pit shall be formed with a ridge of soil to facilitate and contain watering. After planting, cultivate the soil in the shrub beds between shrub pits, rake smooth and outline neatly as shown on Drawings.

### 3.07 WRAPPING, GUYING, AND STAKING:

- A. Trees shall be inspected for injury to trunks, evidence of insect infestation and improper pruning before wrapping. Provide corrective measures as necessary.
- B. Wrap trunks of all trees spirally from bottom to top with material specified and adequately secure. The wrapping shall overlap and entirely cover the trunk from the ground to the height of the second branches and shall be neat and snug. Overlap shall be approximately 2 in.
- C. Tree guying and staking shall be as detailed and completed immediately after planting. All guying shall be adequate to hold the tree in a vertical position under severe weather conditions.

### 3.08 PRUNING AND MULCHING:

- A. Each tree and shrub shall be pruned in accordance with American Nurserymen's Association Standards to preserve the natural character of the plant and as directed by the Architect. No leader shall be cut.
- B. Pruning shall be done with clean, sharp tools.
- C. Cuts over 1 in. in diameter shall be painted with an approved specified tree paint. Paint shall cover all exposed cambium as well as other exposed living tissue. All cuts shall be made flush, without stubs, and shall be shaped so as not to retain water.
- D. Immediately after planting operations are completed, all tree and shrub pits and planting beds shall be covered with a 3 in. layer of the specified mulch.

### 3.09 WATERING:

- A. Plantings shall be watered in a satisfactory manner during and immediately after planting, not less than twice per week, until acceptance.



## PHASE II RENOVATIONS, STATE HOUSE

### 3.10 MAINTENANCE:

- A. Maintenance shall begin immediately after each plant is planted. Plants shall be watered, mulched, weeded, pruned, sprayed, fertilized, cultivated and otherwise maintained and protected until acceptance. Guys shall be tightened and repaired. Defective work shall be corrected as soon as possible after it becomes apparent and weather and season permit. Settled plants shall be reset on proper grade and position, planting saucer restored and dead material removed.
- B. Upon completion of planting, and prior to acceptance, remove from site excess soil and debris and repair all damage resulting from planting operations.

### 3.11 INSPECTION AND ACCEPTANCE:

- A. The Architect will inspect all work for acceptance upon the written request of this Subcontractor received at least ten days before the anticipated date of inspection. Such inspection shall not occur before the final punch list for the entire project.
- B. Furnish full and complete written instructions for maintenance of the planting to the Owner prior to acceptance.
- C. After all necessary corrective work has been completed, and maintenance instructions have been submitted to the Owner, the Architect will certify in writing the acceptance of the planting.

### 3.12 GUARANTEE PERIOD AND REPLACEMENTS:

- A. All plants shall be guaranteed by this Subcontractor for not less than one (1) full year from time of acceptance. During this time the Owner shall maintain all plant materials; however, during the Guarantee Period it shall be the Subcontractor's responsibility to inspect the plant materials to satisfy himself that they are receiving proper care.
- B. If the Contractor is of the opinion that the care being given by the Owner is insufficient or may cause the plants to die prematurely, he shall immediately, and in sufficient time to permit the condition to be satisfactorily rectified, notify the Architect in writing; otherwise, no consideration will be given this claim.
- C. At the end of this period, any plant that is missing, dead, not true to name or size as specified, or not in satisfactory growth, as determined by the Architect, shall be replaced.

PHASE II RENOVATIONS, STATE HOUSE

- D. All replacements shall be plants of the same kind and size as specified in the plant list. They shall be furnished and planted as specified herein. The cost of replacement shall be borne by this Subcontractor except where it can be definitely shown that loss resulted from vandalism or Owner's failure to maintain planting as instructed. All areas damaged or distrubed by replacement operations shall be fully restored to their original condition.
- E. All guys, wires, rubber hose sections, stakes and tree trunk wrapping shall be removed and disposed of by the Contractor off site at his expense at the end of the guarantee period or prior to that at the discretion of the Architect.

3.13 FINAL INSPECTION AND FINAL ACCEPTANCE:

- A. At the end of the guarantee period, inspection will be made by the Architect upon written request submitted by this Subcontractor at least ten (10) days before the anticipated date.
- B. After all necessary corrective work has been completed the Archtitect will certify in writing the final acceptance of the planting.

END OF SECTION



SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of the work.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:
  - 1. Cast-in place concrete, including building foundations, walls, slabs, beams, equipment bases, conduit envelopes, concrete stair fill, and other concrete work shown on the DRAWINGS. Refer to the Site Drawings for details of site improvement items fabricated from concrete.
  - 2. Formwork for cast-in-place concrete.
  - 3. Reinforcing steel for cast-in-place concrete.
  - 4. Moisture barriers.
  - 5. Non-shrink grout at column leveling plates.
  - 6. Do all cutting, patching and repairing of concrete which may be required for proper completion of the work.
  - 7. Control joints in slabs.
  - 8. Expansion joint filler at perimeter, isolation joints and other locations of slabs.
  - 9. Install the following items furnished under the designated SECTIONS:
    - a. Anchor bolts: By trade SECTIONS requiring same.
    - b. Sleeves, inserts, and other items required to be built into the concrete: By trade requiring same.
- B. Related Work Specified Elsewhere: The following related work is to be performed under the designated SECTIONS:
  - 1. Furnishing and setting of sleeves and inserts for mechanical and electrical work under respective trades.
  - 2. Furnishing and installation of fill under slabs on grade: SECTION 02200, Earthwork.
  - 3. Masonry work: SECTION 04200, Unit Masonry
  - 4. Perimeter and Under Slab Insulation: SECTION 07200, Building Insulation

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Quality Control:
  - 1. Do not commence placement of concrete until mix designs have been reviewed and approved by the Architect and all governmental agencies having jurisdiction, and until copies are at the job site, and the batch plant.
  - 2. Also see other requirements for testing as stated in Part 3 of this Section.

1.04 REFERENCE SPECIFICATIONS:

- A. "Specifications for Structural Concrete for Buildings" by the American Concrete Institute (ACI-301).
- B. "Building Code Requirements for Reinforced Concrete" (ACI-318).

1.05 SUBMITTALS:

- A. Product Data: If requested by the Architect, submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, and curing compounds.
- B. Provide shop drawings for fabricating and placing reinforcing steel. Show all required information for cutting, bending and placing reinforcing bars and show all accessories and support bars on placing drawings. Indicate suitable marks for placing bars.
- C. Samples: Submit samples of materials as specified and as otherwise requested by the Architect, including names, sources and descriptions.
- D. Laboratory Test Reports: Submit laboratory test reports for concrete materials and design mix tests if trial batch method is used for proportioning concrete mixes.
- E. Strength Tests: Provide required records of strength tests if field experience method is used for proportioning concrete mixes.
- F. Fabrication of any material or performing of any work prior to the final review of the shop drawings will be entirely at the risk of the Contractor.

1.06 NOTIFICATION OF RELATED TRADES

- A. Notify all other trades responsible for installing chases, inserts, sleeves, anchors, louvers, etc., when ready for such installation, and for final checking immediately before concrete is placed. Cooperate with such trades to obtain proper installation.
- B. Leave openings in walls for pipes, ducts, etc., for mechanical and electrical work, as shown on Drawings, or required by layout of mechanical and electrical systems.

PART 2 - PRODUCTS

2.01 FORM MATERIALS:

- A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize the number of joints. Provide form material with sufficient thickness to withstand the pressure of newly-placed concrete without bow or deflection.
  - 1. Use plywood complying with U.S. Product Standard PS-1 "B-B Concrete Form Plywood", Class 1, exterior Grade or better, mill-oiled and edge sealed, with each piece bearing a legible inspection trademark.
- B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in the finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
- C. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with , stain or adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.
- D. Form Ties: Provide factory fabricated, removable or snap back of approved design. Wire shall be at least back 1-1/2 inches from the surface and leave a hole less than 1 inch in diameter after snapped. Furnish with removable wooden or plastic cones of approved sizes where called for on the DRAWINGS.

2.02 REINFORCING MATERIALS:

- A. Reinforcing Bars: ASTM A615 Grade 60, deformed. Stirrups and column ties may be A615 Grade 40.
- B. Welded Wire Fabric: ASTM A185, Welded Steel Wire Fabric.
- C. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars

and welded wire fabric in place. Use wire bar type supports complying with CRSI recommendations.

1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs. Supports fabricated from concrete may be used when approved.
2. For exposed-to-view concrete surfaces, where legs of supports are in contact with the forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI Class 2).

2.03 MATERIALS FOR CONCRETE

- A. Portland Cement: ASTM C150, Type I or II. Type III may be used at the Contractor's option, when approved by the Architect. Use one brand of cement throughout the project for each strength and mix of concrete.
- B. Water: Water shall be clean and fresh and free from injurious amount of oils, acids, alkalis or organic matter.
- C. Aggregate:
  1. Normal Weight: Maximum sizes shown in the Proportioning Table in this Section, conforming to ASTM C 33.
  2. Lightweight: Course aggregate for lightweight concrete shall be expanded shale or slate, clean and graded from No. 4 sieve to 3/4" max., conforming to ASTM C 330.
  3. Fine and coarse aggregates shall be regarded as separate ingredients.
  4. Variation of required aggregate gradation will be permitted only upon the concrete supplier's written guarantee of the specified strengths of the concrete determined in accordance with cylinder tests specified in the Concrete Testing Section in Division 1.
  5. The aggregates shall be free from injurious amounts of organic impurities.
  6. The aggregates shall be combined so that the grading will fit the following table:

Grading Limits of Combined Aggregates  
Percentage Passing

<u>Sieve Sizes</u>	<u>Class A-1</u>	<u>Class A-2</u>	<u>Class B&amp;C</u>
3 inches	-	-	100
2-1/2 inches	-	-	95-100
1-1/2 inches	90-100	-	65-87
1 inch	50-86	90-100	50-75
3/4 inch	45-75	55-100	45-66
3/8 inch	38-45	45-75	38-55
#4	30-45	35-60	30-45
#16	17-33	20-35	17-27
#50	4-10	5-15	4-9
#100	1-3	1-5	1-3

D. Admixtures:

1. Water reducing agent: "Sonotard WR" by Sonneborn Building Products, "WRDA" by W. R. Grace & Company, "Pozzolith 100" by Master Builders Company, or equal approved by the Architect/Engineer and conforming with ASTM 494 Type A. The water reducing agent must be by the same manufacturer as the air-entraining agent.
2. Air-entraining agent: "Aerolith" by Sonneborn Building Products, "Darex" by W. R. Grace & Company, "MB-VR" By Master Builders Company, or equal approved by the Architect/Engineer conforming to ASTM C-260. To be used to obtain percent air-entrainment specified unless obtained by cement used.

3. No other admixtures may be used without Architect/Engineer approval. Calcium chloride will not be permitted.

2.04 RELATED MATERIALS:

- A. Moisture Barrier: Provide moisture barrier over prepared base material unless otherwise indicated. Use only materials which are resistant to decay when tested in accordance with ANSI/ASTM E 154, as follows:
  1. Polyethylene sheet 6 mils thick, reinforced, equal to "Moistop".
  2. Water resistant barrier paper consisting of heavy Kraft papers laminated together with glass fiber reinforcement and over-coated with black polyethylene on each side.
- B. Joint filler at slab perimeters- 1/4 inch thick asphalt impregnated board, of same depth as slab less 3/4" for sealer, by Burke, W.R. Meadows, Johns Manville or Hohmann and Barnard.
- C. Absorptive Cover: Burlap cloth made from Jute or kenaf, weighing approximately 9 oz per sq yd, complying with AASHTO M182, Class 2.
- D. Moisture-Retaining Cover: One of the following, complying with ASTM C171.
  1. Waterproof paper.
- E. Liquid Membrane Curing Compound:
  1. Liquid type membrane-forming curing compound complying with ASTM C 309, Type I, Class A, unless other type acceptable to Architect. Curing compound shall not impair bonding of any material to be applied directly to the concrete. Demonstrate this non-impairment prior to use.
- F. Joint Sealer-Sealing Compound shall be furnished under SECTION 07900, JOINT SEALERS.
- G. Floor Hardener- "Lapidolith" by Soneborn Building Products, "Hornlith" by A. C. Horn Company, "Saniseal 5" by Master Builders Company or equal approved by the Architect/Engineer. Apply to exposed concrete floors (not receiving flooring cover).
- H. Non-Shrink Grout- "Embeco Pre-Mixed Grout" by Master Builders, "P.I.W. Ironrox Grout" by Toch Brothers, Inc., "Por-Rok" Expanding Grout by Hallemite Manufacturing Company, or equal as approved by the Architect/Engineer.
- I. Expansion Joint Filler shall be sonoflex by Sonneborn or approved Equal.
- J. Joint Filler at Expansion Joints in Paved Areas: 1/2-in. thick polyethylene closed cell material equal to Sonoflex F. by Sonneborn.
- K. Resilient Caulk for Control Joints and Expansion Joints: Non-priming one component polyurethane sealant, as manufactured by Sonneborn.
- L. Backing Rod for Resilient Caulk at Control Joints: 3/8 in. polyethylene backing rod. Use type NP-1 for vertical surfaces and type SL-1 for horizontal surfaces.
- M. Seal coat for all exposed concrete walk surfaces shall consist of two coats of Hydrozo Clear 15 as manufactured by Hydrozo Coatings Company, Lincoln, Nebraska, or approved equal.
- N. Damproofing shall be asphaltic, applied in two coats with a notched trowel.

2.05 STORAGE OF MATERIALS

- A. All materials shall be stored to prevent damage from the elements and other causes.
- B. Cement and aggregates shall be stored in such a manner as to prevent deterioration or intrusion of foreign matter. Any materials which have deteriorated, or which have been damaged, shall not be used for concrete.
- C. Store reinforcing steel on wood skids to protect it from weather, oil, earth and damage from trucking or other construction operations. Reinforcement shall be free from loose mill scale, rust, oil, concrete spatter and other extraneous coatings at the time it is embedded in the concrete.
- D. All forms shall be stored in a neat manner and orderly fashion, protected from the weather and abuse.

- E. Materials which are judged not acceptable for this project shall be immediately removed from the site.

2.06 PROPORTIONING AND DESIGN OF MIXES:

A. PROPORTIONS:

1. Concrete shall be a homogeneous mixture of Portland cement, water, fine aggregates, and coarse aggregates proportioned within the limits specified in this Section.
2. Classes:
  - a. Class A: General use for reinforced sections.
  - b. Class B: Mass pours at locations shown on the DRAWINGS.
  - c. Class C: Pipe encasements, pipe cradles, and fill concrete.
3. Proportioning Table: See the end of this section.
4. Proportion admixtures according to the manufacturer's recommendations.
5. Mix Design:
  - a. Select the proportion of ingredients to produce proper placability, durability, strength, and other required properties.
  - b. Proportion the mixture so that it will work readily into corners and angles of the forms and around reinforcement by the methods of placing and consolidating used on the job, but without permitting the materials to segregate or excessive free water to collect on the surface.
  - c. Determine the water-cement ratio to attain the required strength in accordance with the following Proportioning Table.
6. An alternate mix design employing the same ingredients proposed for use, and used successfully on a previous project under similar conditions to these anticipated on this project may be used provided the following are submitted and approved:
  - a. The concrete mix design.
  - b. Reports for at least 20 consecutive sets of 7 and 28 day concrete strength tests made from the same materials and sources covering a period of at least 6 months.
  - c. Reports of current compliance tests of fine and coarse aggregates made of materials from the same source.

B. Mixing:

1. General: All concrete shall be Ready Mixed concrete.
2. Admixtures (when approved by the Engineer):
  - a. Add all admixtures to the mixer as a solution and dispense automatically by a metering device having a measuring accuracy of  $\pm 3$  percent.
  - b. Add different admixtures separately.
  - c. Add retarders directly after cement is introduced.
3. Retempering:
  - a. Do not retemper concrete that has set.
  - b. Add water only to the extent that the permissible slump and the maximum water-cement ratio is not exceeded. No water may be added to the mix once the deposition of a load has commenced.
  - c. Do not add cement or water without the express written approval of the Architect.



## PROPORTIONING TABLE

Class and Use	28 day Compressive Strength (psi)	Max. Size Coarse Aggregate (inches)	Percent Air (+1%)	Maximum Slump (inches)	Minimum Cement Factor	Maximum W/C #/#
Class A1 Foundation Footings	3,000	1-1/2"	5	4"	564#/C.Y.	0.55
Class A2 Slabs on Grade Fdn Walls, Steps	3,000	3/4"	6	4"	564#	0.50
Class A3 Elevated Slabs, Beams and Columns (Normal Wt.)	3,500	3/4"	6	4"	611#	0.40
Class A4 Elevated Slabs (Lightweight)	3,500	3/4"	6	3"	*	*
Class A5 Structural Fill on Precast Plank	3,000	3/8	7-1/2	3"	611#	0.45
Class A6 Slabs on Grade Exterior	4,000	3/4"	7	3"	*	*
Class B Mass Pour	2,500	2-1/2"	5	4"	470#	0.65
Class C Pipe Encasements, Cradles and Fills	2,000	2-1/2"	5	3"	423#	0.65

\* The determination of the Water-Cement Ratio and Minimum Cement Factor to acquire the required strength shall be in accordance with Method 1 or Method 2 of ACI Standard 301, Paragraph #3.8.2.1 and 3.8.2.2

Note: A water reducing additive may be required to make a workable mix and stay below the maximum water/cement ratio.

## PART 3- EXECUTION

## 3.01 FORMING

- A. Formwork shall conform to ACI 347.
- B. Forms shall be constructed to conform to shapes, lines, and dimensions shown, plumb and straight and shall be maintained sufficiently rigid to prevent deformation under load. Forms shall be sufficiently tight to prevent the leakage of grout. Securely brace and shore forms to prevent displacement and to safely support the construction loads.
- C. Treat forms and form linings with a form release agent applied according to the manufacturer's instructions, by roller, brush or spray to produce a uniform thin film without bubbles or streaks. Apply the release agent in two coats for the first use of the form and in one coat for each additional use.
- D. Removal:
  - 1. Formwork for columns, walls, sides of beams, and other parts not supporting the weight of the concrete may be removed as soon as concrete has hardened sufficiently to resist damage from removal operations, but must remain a minimum of 3 days after the placement of the concrete.
  - 3. No live loads shall be allowed on slabs until the concrete has reached the specified 28 day strength, unless the slab is reshored.
  - 4. When shores and other vertical supports are so arranged that the form facing material may be removed without loosening or disturbing the shores and supports, the facing material may be removed at an earlier age as specified or permitted by the Architect/Engineer.
- E. Reshoring
  - 1. When permitted or required, by the Architect/Engineer, plan reshoring in advance.
  - 2. Loads and Strength:
    - a. Perform reshoring so that at no time will large areas of new construction be required to support their own weight.
    - b. While reshoring is under way, do not permit live loads on the new construction.
    - c. Leave reshores in place until concrete has reached its specified 28 day strength, unless otherwise specified or permitted by the Architect/Engineer.
  - 3. Reshore Supports:
    - a. Reshore floors supporting shores under wet conditions or leave their original shores in place.
    - b. The reshores shall have at least one-half the load capacity of the shores above and shall be distributed in approximately the same pattern as those above.
    - c. Leave these reshores in place until the freshly-placed concrete has reached 75 percent of its specified 28 day strength, unless otherwise permitted or directed in writing by the Architect/Engineer.
- F. Removal Strength:
  - 1. When formwork removal or reshoring removal is based on the concrete reaching its specified 28 day strength (or a specified percentage thereof) the concrete shall be presumed to have reached this strength when any of the following conditions has been met.
    - a. When test cylinders, field cured under the most unfavorable conditions prevailing for any portion of the concrete represented, have reached the required strength. Except for the field curing and age at test, the cylinders shall be molded and tested as specified in the Concrete Testing Section of this Division.
    - b. When the concrete has been cured as specified for the same length of time as the age at test of laboratory-cured cylinders which reached the required strength. The length of time the concrete has been cured in the field shall be determined by the cumulative number of days or fractions thereof, not necessarily consecutive, during which the temperature of the air in contact

- with the concrete is above 50 degrees F. and the concrete has been damp or thoroughly sealed from evaporation and loss of moisture
- c. When the concrete has reached a specified strength as determined by non-destructive tests approved by the Engineer.

### 3.02 MIXING PROCESS

- A. Use ready-mix process, ACI 301-72 Par. 7.1.

### 3.03 PLACING REINFORCEMENT:

- A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.
  1. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.
  2. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.
  3. Place reinforcement to obtain specified coverages for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces. Do not place reinforcing bars more than 2 in. beyond the last leg of continuous bar support.
  4. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

### 3.04 JOINTS

- A. Provide construction joints as shown on the DRAWINGS, but in any case limit the maximum dimensions for placement of concrete in any one pour as follows:
  1. Low walls, 60 feet. High walls (above floor slabs) 30 feet and stagger section pours of all walls within minimum of 3-day delays.
  2. Slabs-on-grade: Saw out joints in slabs where indicated on drawings, within 48 hours of finishing. Cut to be 1-1/2" or more in depth and as narrow as possible; cut to a true straight line.
- B. Construction joint shall be formed with keyed bulkheads. Reinforcement shall continue through the joint, and additional reinforcement shall be placed if indicated on the Drawings.
- D. Joints in Paved Areas:
  1. General:
    - a. Construct expansion joints true-to-line with face perpendicular to surface of paved areas, unless otherwise shown.
  2. Construction Joints:
    - a. Place construction joints at expansion joints.
    - b. Construct joints as shown on the Drawings.
  3. Weakened-Place (Contraction) Joints: Provide weakened-plane (contraction) joints, sectioning the walkway into areas at maximum 5 ft-0 in. o.c.
    - a. Form weakened plane joints in the fresh concrete by grooving the top portion of the slabs with a recommended cutting tool and finishing edges with a jointer.
  4. Expansion and Isolation Joints:
    - a. Construct expansion joints true to line with face perpendicular to surface of paved areas. Align with existing joints where appropriate.
    - b. Provide premolded joint filler for expansion joints, and isolation joints abutting concrete paving and curbs, catch basins, manholes, inlet structures, walks, and other fixed objects.

- c. Locate expansion joints as shown on the plans.
  - d. Extend joint fillers full width and depth of the joint, and 1/2 in. below the finished pavement surface. Furnish joint fillers in one-piece lengths for the full width being placed, wherever possible. Where more than one length is required, carefully butt joint filler sections together.
  - e. Protect the top edge of the joint filler during concrete placement with a metal cap or other temporary material. Remove protection after both sides of joint are placed.
  - f. Apply resilient caulking material in accordance with manufacturer's direction.
5. Control Joints:
- a. Control joints shall be tooled or saw cut where shown on DRAWINGS.
  - b. Insert backing rods in joints before applying caulking compound. Rods shall be installed in vertical joint first.

**3.05 EMBEDDED ITEMS:**

- A. Comply with ACI 318, Chapter 6, Pipes Embedded in Concrete.
- B. Coordinate the installation of all inserts required by other trades. Such inserts normally are to be in place prior to the placing of reinforcing steel.
- C. Place all anchor bolts, adjustable anchor slots, etc., furnished under other SECTIONS.

**3.06 PREPARATION OF FORM SURFACES:**

- A. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.
- B. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form-coating manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come in contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

**3.07 CONCRETE PLACEMENT:**

- A. Preplacement Inspection: Footing bottoms, reinforcement and all work shall be subject to inspection by Architect or designated representative. Notify 24 hours prior to scheduled placement and obtain approval waiver of inspection prior to placement. Moisten wood forms immediately before placing concrete where form coatings are not used. Be sure that all debris and other foreign matter is removed from forms.
- B. General: Comply with ACI 304, and as herein specified.
  - 1. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation due to rehandling or flowing.
  - 2. Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of ingredients and in a manner which will assure that the required quality of the concrete is maintained.
  - 3. Conveying equipment shall be approved and shall be of a size and design such that detectable setting of concrete shall not occur before adjacent concrete is placed. Conveying equipment shall be cleaned at the end of each operation or work day. Conveying equipment and operations shall conform to the following additional requirements;
    - a. Belt conveyors shall be horizontal or at a slope which will not cause excessive segregation or loss of ingredients. Concrete shall be protected against undue drying or rise in temperature. An approved arrangement shall be used at the discharge end to prevent apparent segregation. Mortar shall not be allowed to

## Phase II Renovations-State House

adhere to the return length of the belt. Long runs shall be discharged into a hopper or through a baffle.

- b. Chutes shall be metal or metal-lined and shall have a slope not exceeding 1 vertical to 2 horizontal and not less than 1 vertical to 3 horizontal. Chutes more than 20-ft long and chutes not meeting the slope requirements may be used provided they discharge into a hopper before distribution.
  - c. Pumping or pneumatic conveying equipment shall be of suitable kind with adequate pumping capacity. Pneumatic placement shall be controlled so that segregation is not apparent in the discharged concrete. The loss of slump in pumping or pneumatic conveying equipment shall not exceed 2 in. Concrete shall not be conveyed through pipes made of aluminum or aluminum alloy. Standby equipment shall be provided on the site.
4. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.
  5. Use vibrators designed to operate with vibratory element submerged in concrete, maintaining a speed of not less than 8000 impulses per minute and of sufficient amplitude to consolidate the concrete effectively. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine, generally at points 18 in. maximum apart. Place vibrators to rapidly penetrate placed layer and at least 6 in. into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion maintain the duration of vibration for the time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix, generally from 5 to 15 seconds. A spare vibrator shall be kept on the job site during all concrete placing operation.
  6. No concrete shall be placed until the reinforcement has been inspected and approved by the Architect or designated representative.
  7. Do not use reinforcement as bases for runways for concrete conveying equipment or other construction loads.
- C. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
1. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Bring slab surfaces to correct level with straightedge and strikeoff. Use full floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations. **DO NOT SPRINKLE WATER ON PLASTIC SURFACE.**
  3. Maintain reinforcing in proper position during concrete placement operations.
- D. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.
1. When air temperature has fallen to or is expected to fall below 40 deg. F. (4 deg. C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg. F (10 deg. C), and not more than 80 deg. F (27 deg. C) at point of placement.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators.
  4. All temporary heat, form insulation, insulated blankets, coverings, salt hay, or other equipment and materials necessary to protect the concrete work from physical

damage caused by frost, freezing action, or low temperature shall be provided prior to start of placing operations.

- a. When the air temperature has fallen to or is expected to fall below 40 deg. F, provide adequate means to maintain the temperature in the area where concrete is being placed between 50 and 70 deg. F.
- E. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

### 3.08 FINISH OF FORMED SURFACES:

- A. Rough Form Finish (RfFm-Fn): For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing materials used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4 in. in height rubbed down or chipped off.
- B. Smooth Form Finish (SmFm-Fn): For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, damp-proofing, painting or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.
- C. Related Unformed Surfaces: At tops of walls, horizontal offset surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

### 3.09 MONOLITHIC SLAB FINISHES:

- A. Scratch Finish (Scr-Fn): Apply scratch finish to monolithic slab surfaces that are to receive concrete floor topping or mortar setting beds, and as otherwise indicated.
  1. After placing slabs, plane surface to a tolerance not exceeding 1/2 in. in 10 ft when tested with a 10 ft straightedge. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set, with stiff brushes, brooms or rakes.
- B. Float Finish (Flt-Fn): Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified, and slab surfaces which are to be covered with membrane or elastic waterproofing, and as otherwise indicated.
  1. After screening, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand-floating if area is to a tolerance not exceeding 1/4 in. in 10 ft when tested with a 10-ft straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
- C. Trowel finish (Tr-Fn): Apply trowel finish to monolithic slab surfaces indicated, including slab surfaces to be covered with carpet, resilient flooring, paint or other thin-film finish coating system.
  1. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/4 in. in 10 ft when tested with a 10-ft straightedge. Grind smooth any surface defects which would telegraph through applied floor covering system.

- D. Non-Slip Broom Finish (NSBrm-Fn): Apply non-slip broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.
  - 1. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.
- E. Finishing Landing Slabs:
  - 1. After striking off and consolidating concrete, smooth the surface by screeding and floating. Use square nose shovels to consolidate along edges and corners. Use hand methods only where mechanical floating is not possible. Adjust the floating to compact the surface and produce a uniform texture.
  - 2. After floating, test surface for trueness with a 10-ft straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous, smooth finish.
  - 3. Work edges of exposed slabs with a 1/8-in. radius edging tool, unless otherwise shown.
  - 4. After completion of floating and when excess moisture or surface sheen has disappeared, complete surface finishing as follows:
    - a. Provide broom finish by drawing a fine-hair broom across the concrete surface, perpendicular to the line of traffic.
    - b. Repeat operation if required to provide a fine line texture acceptable to the Architect.

### 3.10 CONCRETE CURING AND PROTECTION:

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with the requirements of ACI 306 and as herein specified.
  - 1. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.
  - 2. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period
    - a. Curing shall be continued for at least 7 days in the case of all concrete except high-early-strength concrete for which the period shall be at least 3 days. Alternatively, if tests are made of cylinders kept adjacent to the structure and cured by the same methods, moisture retention measures may be terminated when the average compressive strength has reached 70 percent of the specified strength, f'c. If one of the curing procedures below is used initially, it may be replaced by one of the other procedures any time after the concrete is 1 day old provided the concrete is not permitted to become surface dry during the transition.
  - 3. When the mean daily outdoor temperature is less than 40 deg. F, the temperature of the concrete shall be maintained between 50 and 70 deg. F. for the required curing period.
    - a. When necessary, arrangements for heating, covering, insulating, or housing the concrete work shall be adequate to maintain the required temperature without injury due to concentration of heat. Combustion heaters shall not be used during the first 24 hours unless precautions are taken to prevent exposure of the concrete to exhaust gases which contain carbon dioxide.
    - b. Keep protections in place and intact at least 24 hours after artificial heat is discontinued. Avoid rapid dry-out of concrete due to overheating, and avoid thermal shock due to sudden cooling or heating.
    - c. Changes in temperature of the air immediately adjacent to the concrete during and immediately following the curing period shall be kept as uniform as

possible and shall not exceed 5 deg. F. in any 1 hr or 50 deg.F. in any 24-hr period.

- B. Curing Methods: Perform curing of concrete by moist curing, by moisture-retaining cover curing, by curing compound, and by combinations thereof, as herein specified.
  - 1. Provide moisture curing by following methods.
    - a. Keep concrete surface continuously wet by covering with water.
    - b. Continuous water-fog spray.
    - c. Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4-in. lap over adjacent absorptive covers.
  - 2. Provide moisture-cover curing as follows:
    - a. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3 in. and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
  - 3. Provide curing compound to slabs as follows:
    - a. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's direction. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
    - b. Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid floor hardener or with a covering material bonded to concrete such as concrete, waterproofing, damp-proofing, membrane roofing, flooring, painting, and other coatings and finish materials, unless otherwise acceptable to Architect.
    - c. No chemical curing, sealing, or parting agents of any kind shall be used without the written approval of the finish floor manufacturer.
- C. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.
- D. Protection From Mechanical Injury: During the curing period, the concrete shall be protected from damaging mechanical disturbances, such as load stresses, heavy shock, and excessive vibration. All finished concrete surfaces shall be protected from damage by construction equipment, materials, or methods, by application of curing procedures, and by rain or running water. Self-supporting structures shall not be loaded in such a way as to overstress the concrete.

### 3.11 CUTTING OF HOLES:

- A. Cut holes required by other trades in any cast-in-place concrete which did not receive sleeves. Use a core drilling process or sawing process which produces clean sharp edges and the minimum hole size which accommodates the piping, conduit, or equipment requiring the opening.
- B. Obtain approval of Architect/Engineer before cutting any holes for any trades.

### 3.12 NON-SHRINK GROUT:

- A. Grout solid all bearing plates in accordance with manufacturer's recommendations.

### 3.13 STAIR PAN FILL:

- A. Treads and intermediate landings shall be filled with granolithic concrete, consisting of one (1) part Portland cement, one (1) part sand, two (2) parts 3/8-inch peastone by



volume mixed with not more than five (5) gallons of water per sack of cement. Reinforce fill with 2x2-14/14 welded wire fabric.

- B. Stair pan fill shall be cured in accordance with paragraph 3.10 CURING AND PROTECTION, of this SECTION.

**3.14 MISCELLANEOUS CONCRETE ITEMS:**

- A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

**3.15 CONCRETE SURFACE REPAIRS:**

- A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Architect.
1. Cut out honeycomb, rock pockets, voids over 1/4 in. in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than 1 in. Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.
  2. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.
- B. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets; fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.
1. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
- C. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope.
1. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01-in. wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.
  2. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.
  3. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.
  4. Repair defective areas, except random cracks and single holes not exceeding 1-in. diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4-in. clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place,

- compact and finish to blend with adjacent finished concrete. Cure in the same manner as adjacent concrete.
5. Repair isolated random cracks and single holes not over 1 in. in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry-pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.
  6. Use epoxy-based mortar for structural repairs, where directed by Architect.
  7. Repair methods not specified above may be used, subject to acceptance of Architect.

### 3.16 QUALITY CONTROL TESTING DURING CONSTRUCTION:

- A. The contractor will employ a testing laboratory to inspect, sample and test the materials and the production of concrete and to submit test reports.
- B. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
  1. Slump: ASTM C 143; one test for each concrete load at point of discharge; and one test for each set of compressive strength test specimens.
  2. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure method for normal weight concrete; one for each set of compressive strength test specimens.
  3. Concrete Temperature: Test hourly when air temperature is 40 deg. F (4 deg.C) and below, and when 80 deg. F (27 deg. C) and above; and each time a set of compression test specimens made.
  4. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
  5. Compressive Strength Tests: ASTM C 39; one set of each 50 Cu yds or fraction thereof, of each concrete class placed in any one day or for each 5,000 sq ft of surface area placed; 1 specimen tested at 7 days and 2 specimens tested at 28 days. The fourth cylinder shall be used for additional tests as necessary, being retained at laboratory for necessary period as approved by Architect/Engineer.
    - a. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
    - b. When total quantity of a given class of concrete is less than 50 cu yds, strength test may be waived by Architect if, in his judgment, adequate evidence of satisfactory strength is provided.
    - c. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
    - d. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive by more than 500 psi.
    - e. Test results will be reported in writing to Architect, Building Inspector, and Contractor on the day following the day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials;

compressive breaking strength and type of break for both 7-day tests and 28-day tests.

- C. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

3.17 ACCEPTANCE:

- A. Work which meets all applicable requirements of 3.18 following will be accepted without qualification.
- B. Work which fails to meet one or more requirements of 3.18 following but which has been repaired to bring it into compliance will be accepted without qualification.
- C. Work which fails to meet one or more requirements and which cannot be brought into compliance may be accepted or rejected as determined by the Architect/Engineer.
- D. Concrete failing to meet the strength requirements of this Section may be required to undergo additional curing as specified by the Architect/Engineer. Modifications may be required to the concrete mix design for the remaining concrete work, at the expense of the Contractor.
- E. Formed surfaces that are not within the tolerances specified may be rejected. If permission is granted to correct the error, such correction shall be directed and in such a manner as to maintain the strength, function and appearance of the structure.
- F. Concrete members cast in the wrong location may be rejected if the strength, appearance, or function of the structure is adversely affected.
- G. Inaccurately formed surfaces exposed to view may be rejected and shall be repaired or removed and replaced if required by the Architect/Engineer.
- H. Finished flatwork exceeding specified tolerances may be repaired by grinding high spots or by patching low spots with an approved epoxy grout.
- I. Concrete exposed to view with defects which adversely affect the appearance of the structure may be repaired if possible. If, in the opinion of the Architect/Engineer, the defects cannot be repaired, the concrete may be accepted or rejected in accordance with the decision of the Architect/Engineer.

3.18 STRENGTH OF STRUCTURE

- A. The strength of the structure in place will be considered potentially deficient if it fails to comply with any requirements which control the strength of the structure, as outlined below:
  - 1. Low concrete strength as evaluated by the requirements of this Section.
  - 2. Reinforcing steel size, quantity, strength, position of arrangement at variance with the project DRAWINGS.
  - 3. Concrete which differed from the required dimensions or locations in such a manner as to reduce the strength.
- B. The work will be accepted or rejected, as the work is produced, by the Architect/Engineer or his authorized representative.

END OF SECTION

SECTION 04200 - UNIT MASONRY

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:
  - 1. New facebrick masonry as indicated.
  - 2. New concrete unit masonry (CMU) as indicated.
    - a. Include concrete brick shapes as indicated.
  - 3. Mortar and grout for masonry work, including grout fill of bond and lintel beams.
  - 4. Reinforcing, ties, anchors and other metal accessories for tying masonry work together and to other work, except as otherwise specified herein.
    - a. Include reinforcing of bond and lintel beams.
  - 5. Building in of door frames, window frames, steel lintels, louvers, grilles, sleeves, anchors, and all other items required to be built into the masonry construction.
  - 6. Control joints, including fillers, occurring in masonry.
  - 7. Cutting and patching of new unit masonry work as required for the work of other Sections.
  - 8. Erection of sample masonry panels and submission of samples as specified.
  - 9. Cleaning and pointing of new masonry work of this Section exposed to view.
  - 10. Cavity wall insulation board.
    - a. Include board insulation within masonry cavity walls.
    - b. Include dampproofing exterior face of inner wythe of cavity walls, and against outer face of structural steel embedded in exterior masonry walls.
  - 11. Through-wall flashing in masonry construction.

Phase II Renovations, State House

12. Provide and maintain all staging required for work of this SECTION 04200, in accordance with the requirements set forth in SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS.
  13. Fine cutting and removal of existing masonry work as required to accommodate new construction, toothing in of new masonry to existing as required.
  14. Granite masonry as indicated.
- B. Items To Be Installed Only: Install the following items furnished under the designated Sections:
1. Loose steel lintels for openings in masonry walls: DIVISION 5.
  2. Access panels, sleeves for piping and conduit to be built into masonry as furnished under the Mechanical and Electrical Sections.
  3. Build-in all anchors, blocking, plates, anchor bolts, ties and all other items required to be built into masonry as furnished by other trade Sections. Cooperate with all other trades and notify them sufficiently in advance of the time when the material furnished by them is to be built into the masonry so that progress of the work will not be impeded. Every precaution shall be taken to minimize cutting and patching.
- D. Related Work Specified Elsewhere:
1. Removal of existing walls and other major masonry construction: SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS.
  2. Caulking and sealing of joints in masonry: SECTION 07900 - JOINT SEALANTS.
  3. Exterior wall coating over new and existing exterior masonry: SECTION 07176 - ACRYLIC EMULSION EXTERIOR MASONRY COATING.
  4. Removal of paint surface from existing facebrick: SECTION 09900 - PAINTING.
- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Standards: Comply with applicable recommendations made by following producer associations:
  1. Concrete Masonry Units: National Concrete Masonry Association (NCMA).
- C. Job-Site Sample Panel: Construct at job site exterior CMU sample panel, approximately 6 ft long by 4 ft high. Panel shall facebrick, concrete brick, CMU, thickness and pattern of joints; and all other aesthetic factors of the exterior masonry. Upon completion and approval, panel shall remain on site as a standard of acceptance for the permanent exterior masonry construction.
  1. Include also typical cavity wall construction, showing wall ties, joint reinforcing, insulation, dampproofing (vapor barrier) and accessories.
  2. Arrange for application of exterior masonry coatings to CMU, as specified under DIVISION 7 Sections.
  3. Include also typical control joint assembly, with joint sealants as specified under SECTION 07900.
  4. Arrange for panel construction to be started in presence of Architect; do not proceed further until beginning portion is approved.
  5. Remove panel when directed by Architect.
- D. Fire-Rated Masonry: Wherever a fire-resistance classification is shown or scheduled for unit masonry construction, comply with requirements for materials and installation by the American Insurance Association and governing authorities for the construction shown.

1.04 SUBMITTALS:

- A. General: Provide submittals in compliance with SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Manufacturer's Data: For information only (except as indicated) submit 2 copies of the manufacturer's specifications and other data for each type of masonry unit and accessory required including certification that each type complies with the specified requirements. Include instructions for handling, storage, installation and protection of each. Indicate by transmittal that the Installer has received a copy of each instruction.

C. Samples: Submit samples of following:

1. Facebrick: Two sets of brick samples, for each brick type, color and size, including special shapes; each set showing the full range of color and texture of the brick units.
2. CMU: Two sets of standard CMU for exterior use, and scored CMU for interior use.
3. Concrete Brick: Two sets of exposed material.
4. Insulating materials and accessories:

D. Certificates of Compliance: Submit certificates of compliance for following materials (designate on certificates the applicable standards including all type, class and other designations as applicable):

1. Facebrick.
2. Concrete masonry units.
3. Concrete brick.
3. Portland cement.
4. Lime.
5. Masonry aggregate.
6. Insulation materials.

E. Test Reports:

1. Submit independent laboratory test reports for face brick and each type of masonry unit, mortar material and other component specified herein.
2. Include in test reports:
  - a. Compressive strength.
  - b. 24-hour cold water absorption.
  - c. 5-hour boil absorption.
  - d. Saturation coefficient.
  - e. Initial rate of absorption (suction).
  - f. Latent salt content, ASTM C 67.
  - g. Water (tested for calcium if obtained from new deep well or other local below ground surfaces).

1.05 TESTING AND INSPECTION; BY OWNER:

- A. Following acceptance of initial test reports by Contractor, all masonry work, including specifically but not limited to masonry and mortar materials, shall be subject to testing and inspection to be performed by a Testing Laboratory selected and paid for by Owner.
  - 1. Owner will not be required to engage such Testing Laboratory.
  - 2. Such testing, if Owner so elects, shall be in addition to and not in lieu of testing and test reports required by Contractor.
  - 3. Costs of additional testing required by failed samples shall be at expense of Contractor, including all related per diem costs.
  - 4. Refer to SECTION 01250 - TESTING LABORATORY SERVICES for additional requirements.
- B. Use no masonry or mortar materials on the work without prior test and written approval of the Testing Engineer (if applicable) and Architect, unless Architect specifically approves otherwise. If applicable, materials shall be submitted to the Testing Laboratory at least three weeks, and preferably five weeks, in advance of proposed first use in the structure for subjection to the prescribed basic acceptance test and determination of basic mixtures.
- C. At the start of field operations, and periodically during the course of work, the Testing Laboratory may check tests of mortar materials and mortar to assure compatibility with these Specifications and the originally approved samples. Number and frequency of tests shall be determined by the Architect.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. General: Protect masonry units and manufactured products of all types from wetting by rain or snow, and keep covered when not in use.
- B. Masonry Face Units: Handle all face materials carefully in transit and on the site so as to keep units whole, edges sharp and faces clean and undamaged. Do not dump masonry face units but deliver on pallets, handled individually or in suitable groups and properly stacked, with minimum protection as follows:
  - 1. Face Brick: Straw and in cubes.
  - 2. Concrete Masonry Units: Careful handling.
- C. Aggregates: Deliver, store and handle aggregate materials so as to prevent contamination with earth or other foreign materials.
- D. Manufactured Items: Deliver all manufactured products in their original containers, plainly marked with product identification and manufacturer's name.



1. Store cement, lime and similar products under cover and from direct contact with earth or floor slabs.
2. Store metal accessories and the like under cover and from direct contact with ground, and in manner to prevent rust.

E. Damaged Material: Remove any damaged or contaminated materials from job site immediately, including materials in broken packages or packages containing water marks or other evidence of damage, unless Architect specifically authorizes correction and use on project.

1.07 JOB CONDITIONS, PROTECTION:

A. Protection of Work: During erection, cover exposed tops of exterior facebrick or concrete masonry units with heavy waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.

1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
2. Do not apply loading for at least 12 hours after building masonry walls or columns.
3. Do not apply concentrated loads for at least 3 days after building masonry walls or columns.

4. Comply as a minimum requirement with recommendations of the referenced producer associations; comply with more stringent requirements of same where options are given; comply with more stringent requirements where specified herein.

- a. NOTE: Requirements of referenced standards and as specified herein are minimal acceptable, and compliance shall not relieve Contractor of responsibility for providing masonry in sound condition, undamaged by freezing or other action of the elements other than normal weathering following proper curing of mortar. Contractor shall take additional precautions and corrective measures as required.

B. Staining: Prevent grout or mortar from staining the face of masonry to be left exposed or coated. Remove immediately grout or mortar in contact with such masonry.

C. Cold Weather Protection:

1. Definitions:

- a. "Air Temperature" means the lower of (1) the current ambient air temperature at time the masonry work is being erected, or (2) the temperature forecast by the Weather Service within the next four hours.

Phase II Renovations, State House

- b. "Mean Air Temperature" denotes the expected mean air temperature for the 24 hour period (or other period if applicable) following the completion of each segment of masonry work.
  - c. "Exterior Masonry" means any masonry exposed to the elements, including interior or enclosed masonry in unheated locations.
2. Remove any ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch.
  3. Remove all masonry determined to be frozen or damaged by freezing conditions.
  4. Perform the following construction procedures while any exterior masonry work is progressing:
    - a. When air temperature is from 40 deg. F to 32 deg. F, heat sand or mixing water to produce mortar temperatures between 50 deg. F and 120 deg. F.
    - b. When air temperature is from 32 deg. F to 25 deg. F, heat sand or water to produce mortar temperatures between 50 deg. F and 120 deg. F; maintain temperature of mortar on boards above freezing.
    - c. When air temperature is from 25 deg. F to 20 deg. F, heat sand and mixing water to produce mortar temperatures between 40 deg. F and 120 deg. F; maintain temperature of mortar on boards above freezing; use salamanders, infra-red lamps or other heat sources on both sides of walls under construction; use wind breaks when wind is in excess of 15 mph.
    - d. When air temperature is 20 deg. F and below, heat sand and mixing water to produce mortar temperatures between 50 deg. F and 120 deg. F; provide enclosures and auxiliary heat to maintain air temperature above 32 deg. F; do not lay units which have surface temperature lower than 32 deg. F.
  4. Provide following protections for completed exterior masonry or exterior masonry not being worked on:
    - a. When the mean daily air temperature is from 40 deg. F to 32 deg. F, protect masonry from rain or snow for at least 24 hours by covering with weather-resistive membrane; 48 hours for grouted masonry.
    - b. When the mean daily air temperature is between 20 deg. F and 32 deg. F, cover with weather-resistive insulating blankets or equivalent for at least 24 hours; 48 hours for grouted masonry.
    - c. When mean daily temperature is 20 deg. F and below, maintain masonry temperature above 32 deg. F for 24 hours (48 hours for grouted masonry) using enclosures and supplementary heat, electric heating blankets, infrared lamps, or other acceptable methods.

5. Optional methods of BIA for increasing the mortar strength or use of Type III cement *will not* be allowable.
6. Use of calcium chloride or other additives to accelerate curing of mortar, or use of anti-freeze additives in the mortar, will not be acceptable.

## PART 2 - PRODUCTS

### 2.01 MASONRY UNITS:

- A. Manufacturer: Obtain masonry units from one manufacturer, of uniform texture and color for each kind required, for each continuous area and visually related areas.
- B. Facebrick: ASTM C216, Type FBA, Grade SW
  1. Unless otherwise indicated or approved match existing facebrick in size, color and texture (waterstruck).
  2. Special Shapes: Provide special shapes as indicated on Drawings required for conditions.
    - a. Provide solid uncured bricks where exposure on three surfaces is indicated.
- C. Concrete Masonry Units (CMU) - Standard:
  1. Size: Manufacturer's standard units with nominal face dimensions of 16 in. long x 8 in. high (15-5/8 in. x 7-5/8 in. actual), unless otherwise shown.
  2. Special Shapes: Provide where shown and where required for lintels, corners, jambs, sash, control joints, headers, bonding and other special conditions.
  3. Type: Hollow load bearing, ASTM C90, Grade N or S, Type 1.
    - a. Provide only standard weight units.
    - b. Provide solid block (maximum 25-percent voids) for interior CMU where indicated, complying with ASTM C145.
    - c. Provide bullnose units at all exposed external corners of interior block (except lintel block).
  4. Exposed Face: Manufacturer's standard, of uniform texture throughout.
- D. Concrete Brick: Comply with ASTM C 55, Type I Moisture Controlled, Grade N for use as architectural veneer; shapes and sizes to match facebrick unless otherwise indicated.

E. Granite: Match existing in color, surface texture and other characteristics.

1. Where feasible arrange for careful removal of existing granite under SECTION 02052, and re-use in new work indicated.

2.02 MORTAR MATERIALS:

A. Colors:

1. For facebrick and granite masonry provide color to match existing, using integral coloring additive if required.
2. Integral Color Additive: "Spectrum" as distributed by S. B. Green & Co., Inc., Watertown, MA; "Colormix" as manufactured by Master Builders Company; "Texcolor" as manufactured by C. G. Pardee Co., Inc., or approved equal. Use sparingly, in minimum amounts needed to obtain required color.
  - a. Color: As required.
3. Select aggregate and portland cement materials for color, so as to reduce to minimum the amount of color additive required.
4. Do not change source(s) of supply for each colored or exposed mortar material, including aggregates and portland cement, for each required color, unless approved in advance by Architect.

B. Portland Cement: ASTM C150, Type I or II.

1. For facebrick and granite mortar provide in white, buff, light gray or dark colors, or mixtures thereof, as required to minimize use of coloring additive.
2. For all exterior masonry, provide cement meeting the further requirement that it shall exhibit no efflorescence when cast into the form of 2 in. by 7 in. slabs comprising the cement under test. Use Ottawa plastic mortar sand and distilled water (in proportions of 1:2 by weight, with water added to produce 100 percent flow) and subjected to a 7-day "wick test" in general conformity with the methods described in ASTM C67.

C. Aggregate:

1. Sand: ASTM C144, selected for color where not to be concealed or painted.
  - a. For joints less than 1/4 in. wide use aggregate graded with 100 percent passing the No. 16 sieve.
  - b. For Alternate select for color so that cured mortar will closely match the precast concrete.
2. Coarse Aggregate for Grout: ASTM C33, sized between 1/4 in. and 3/8 in. (pea gravel).

- D. Hydrated Lime: ASTM C207, Type S.
  - E. Masonry Cement: Not acceptable.
  - F. Water: Obtain from public water system, clean and potable when used.
  - G. Integral Waterproofing: "Omicron Mortarproofing" manufactured by Master Builders Co., "Hydrocide" manufactured by L. Sonneborn Sons, Inc., "Drycrete" manufactured by C. G. Pardee Co., Inc. or equal.
  - H. Shrinkage Reducing Material: Non-staining material as approved by Architect, designed to compensate for shrinkage of mortar during curing. Provide for stone masonry and for replacing of existing brick.
  - I. Epoxy Bonding Agent: Sika Sikadure Hi-Mod Epoxy Bonding Compound, or approved equal, as approved by Architect. Use for joining new work to existing or as recommended by the referenced standards.
- 2.03 MASONRY ACCESSORIES:
- A. Ferrous Metal Materials and Finish: Provide ferrous metal materials complying with following:
    - 1. Wire Products: ASTM A 82, finish as follows except as specified otherwise:
      - a. Exterior Walls: Hot-dipped galvanized, ASTM A 153, Class B-2, minimum 1.50 ounce coating.
      - b. Inner Wythes of Exterior Walls: Same as exterior walls or mill galvanized, ASTM A 641, Class 1, minimum 0.40 ounce coating.
      - c. Interior Walls: Regular mill galvanized, ASTM A 641, minimum 0.10 ounce coating.
    - 2. Steel Plates and Bar Anchors: ASTM A 36.
    - 3. Sheet Steel: ASTM A 568.
      - a. Exterior Walls Including Inner Wythes: Mill galvanized, ASTM A 641, Class 1, minimum 0.40 ounce coating.
      - b. Interior Walls: Regular mill galvanized, ASTM A 641, minimum 0.10 ounce coating.
    - 4. Optional Finish: Fusion bonded epoxy in lieu of galvanized, except where stainless steel is specified.
  - B. Veneer Anchors:
    - 1. For securement to in-place masonry or other construction provide 14-gauge steel plate with 3/16 inch wire ties.

- a. Product, Exterior Walls: Dur-O-Wal D/A Adjustable Speed Set Anchors, D/A 801, *stainless steel* (only); or approved equal.
- b. Product, Interior Walls: Same as exterior walls except mill or hot-dipped galvanized will be acceptable.
2. For securement to structural steel, furnish standard weld on steel slots (hot-dipped galvanized) to structural steel fabricator, for welding on in shop, not lighter than 16 gauge. Provide one of following:
  - a. Heckman No. 315 or 315-B with 316 ties.
  - b. AA Wire Products Co. AA401-G or B with AA400 Series Flex-O-Lok ties.
  - c. Dur-O-Wal D/A 709 with D/A 701-708 Series ties.
  - d. Approved equal.
3. For securement to concrete provide dovetail anchor slots with matching dovetail insert and wire tie (each hot-dipped galvanized). Furnish dovetail anchor slots (hot-dipped galvanized) to concrete installer. Provide one of following:
  - a. Heckman No. 100 with 103 ties (107 for slots mounted vertically).
  - b. AA Wire Products Co. AA 100 with 200 ties (similar ties to suit horizontal installation if applicable).
  - c. Dur-O-Wal D/A 100 with D/A 720-723 ties (similar ties to suit horizontal installation if applicable).
  - d. Approved equal.
4. Other Anchoring Devices for Masonry: Provide anchors, straps, bars, bolts and rods fabricated from not less than 16 ga. sheet metal or 3/8 in. diameter rod stock, unless otherwise indicated.
- C. Continuous Wire Reinforcing and Ties for Unit Masonry: Provide welded wire units prefabricated in straight lengths of not less than 10 ft, with matching corner and tee units. Fabricate from cold-drawn steel wire complying with ASTM A82, with deformed continuous side rods and plain cross-rods, and a unit width of 1-1/2 in. to 2 in. less than thickness of wall or partition.
  1. Cavity Walls: Combination truss type with pintle type anchors welded at 16 in on centers.
    - a. Product: Dur-O-Wal "Dur-O-Eye" or approved equal.
  2. Other Walls: Truss type fabricated with single pair of 9 ga. side rods and 9 ga. continuous diagonal cross-rods spaced not more than 16 in. o.c.

- a. Product: Dur-O-Wal Truss Design; or approved equal.
- D. Flashings for Masonry: Provide concealed flashings, shown to be built into masonry, as follows:
  - 1. Copper-Fabric Laminate: Copper bonded to asphalt impregnated cotton fabric both sides.
- E. Reinforcement for Bond/Lintel Beams: ASTM A615, Grade 60.
  - 1. Provide sizes as shown, or if not shown provide 2 No. 3 bars in bottom.
- F. Perforated Plates: Hot-dipped galvanized steel sheet, not lighter than 16 gauge, perforated with 1/8 in. holes at 3/8 in. on centers each way.
- G. Weeps: Clear plastic tube, 3/8 inch diameter by 3-1/2 inch long.
  - a. Product: Dur-O-Wal D/A 1005; or approved equal.
- 2.04 BOARD INSULATION FOR CAVITY WALLS:
  - A. Polyurethane Board Insulation: Foil faced each side, Fed. Spec. HH-I-1972/1, Class 2.
    - 1. R-Value: Aged R-Value at 75 deg. F. 7.2 minimum for 1-inch thick material.
  - B. Manufacturer: Subject to compliance with requirements, provide product by one of following; or approved equal:
    - 1. Celotex Corp.
    - 2. GAF Corp.
    - 3. Grefco, Inc.
    - 4. NRG Barriers, Inc.
- 2.05 DAMPPROOFING MATERIAL:
  - A. Provide non-fibrated asphalt emulsion meeting ASTM D1187.
  - B. Product: Karnak 100; or approved equal.

PART 3 - EXECUTION

3.01 MORTAR PROPORTIONING AND MIXING:

- A. Provide mortar complying with the proportion requirements of ASTM C270, except as otherwise specified or indicated on Drawings.

1. Use Type N mortar where not otherwise specified or indicated on Drawings.
  2. Use Type S mortar for vertically reinforced masonry,
  3. Use Type M mortar for below grade conditions in contact with earth materials.
- B. Add integral waterproofing admixture to mortar used for exterior masonry and in interior partitions at wet areas, in the quantity and manner recommended by the manufacturer.
1. Add coloring agent and shrinkage reducing agent as specified.
- C. Machine mix mortar only. Cement and hydrated lime may be batched by the bag. Sand preferably shall be batched by weight, but subject to the approval of Architect, may on certain small operations be batched by volume in suitably calibrated containers, provided proper allowance is made for weight per cubic foot, contained moisture, bulking and consolidation. Shovel measurement will not be acceptable.
- D. Provide mortar with just sufficient water to provide proper workability under the trowel. Water for tempering shall be available on the scaffold at all times. Discard mortar which has begun to "set" or is not used within two and one-half hours after initial mixing. Mortar which has stiffened due to evaporation within the two and one-half hour period shall be retempered to restore its workability. Retempering the mortar at the mixer shall not be permitted.
- 3.02 ALLOWABLE TOLERANCES FOR MASONRY WORK:
- A. Maximum Variation from Plumb:
1. In lines and surfaces of columns, walls and arises:
    - a. 1/4 in. in 10 ft
    - b. 3/8 in. in any story or 20 ft maximum
  2. For external corners, control joints and other conspicuous lines:
    - a. 1/4 in. in any story or 20 ft maximum.
- B. Maximum variation from level or grades for exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines:
1. 1/4 in. in any bay or 20 ft
  2. 1/2 in. in 40 ft
- C. Maximum variation of linear building line from an established position in plan and related portions of columns, walls and partitions.
1. 1/2 in. in any bay or 20 ft maximum



2. 3/4 in. in 40 ft (1:640)

- D. Maximum variation in cross-sectional dimensions of columns in thickness of walls: Not less than 1/4 in. smaller nor more than 1/2 in. larger than walls.

3.03 JOINTS AND BONDING PATTERNS:

- A. Joints: Unless otherwise indicated provide joints and bonding to match existing adjacent masonry of like material to remain.
1. Include lining up of bonding patterns of new work to existing.
  1. Depth and Width: 3/8 inch for both horizontal and vertical.
  2. Joints to Receive Sealant: Rake out joints to receive caulking or sealant as specified.
  3. Concealed Masonry: Strike joints flush joints in masonry unit walls and partitions concealed from view, tooling not required.
- B. Masonry Bonds: Running bond unless otherwise indicated.

3.04 MASONRY INSTALLATION, GENERAL:

- A. Lay all masonry work with skilled workmen under adequate supervision, true to lines and levels with joints of uniform thickness, all surfaces true, and corners straight and plumb.
- B. Lay up walls and partitions which are to remain exposed to view true in place to within 1/8 in. when measured with a ten foot long straightedge. Where walls are exposed two sides, obtain decision from Architect as to which is to be held to the 1/8 in. tolerance.
- C. Examine all Drawings as to requirements for the accommodation of work of other trades and Contractors and provide all required recesses, chases, slots, cutouts and built-ins, setting of loose lintels, placement of anchors, bolts, sleeves and other items occurring in the masonry work. Take every precaution to minimize future cutting and patching.

- D. Except as specified otherwise, lay all masonry units dry. Masonry units shall be protected from rain prior to laying, and shall have a moisture absorption ratio less than 35 percent when laid. In hot weather, lightly moisten contact surfaces with water by use of a soft brush.
- E. Brick: Lay all brick with full shove joints in full beds of mortar; fill all vertical joints with mortar.
- F. CMU: Lay all blocks with full bed on shells only, except set bottom course bearing on concrete with full face and webs also; fully butter vertical edges.
- G. Place masonry fitting into bucks and frames as not to distort alignment of such items and slush backs of such items full with mortar. Carefully point around all metal frames with mortar, except where joints are specified or noted to receive sealant, in which case rake out joints to a uniform depth of 3/4 in. and a width of 3/8 in. for proper installation of sealant material.
- H. Take special care in laying up masonry units that will be exposed to view in the finished work to insure a uniform appearance in texture and joint pattern.
- I. Perform all cutting of exposed masonry units with a motor-driven carborundum saw to insure straight, evenly cut edges.
- J. At locations where conduits and pipes are to be concealed by masonry units, install each unit so as to provide a finished appearance with adjacent surfaces. Wherever possible, cuts shall be hidden from view.
- K. Provide complete protection against breakage and weather damage to all masonry work. Provide substantial wood boxing around door jambs, over window sills and jambs, over the tops of partitions and wherever necessary to protect work at all stages of completion. Masonry, when not roofed over, shall be positively protected at all times when Masons are not working on the walls.
- L. NOTE: Openings other than shown on the Drawings shall not be allowed in masonry walls, without the expressed consent of Architect.
- M. Wall Heights:
  - 1. Where walls are indicated to extend full height, extend walls from top of structural floor to bottom surface of floor construction above, or to bottom of parallel steel where applicable. Install joint filler between masonry and bottom surface of floor construction.
  - 2. Where walls are not required to extend full height, terminate a minimum of 4 inches above finished ceiling line. Where run of wall without intersecting masonry walls exceeds 12 feet provide rigid steel bracing from top of walls to structural system above at not over 12 feet on centers.

N. Control Joints: Form as indicated.

3.05 WALL TIES AND ANCHORS - INSTALLATION:

A. Masonry veneer anchored to light gauge metal studs, masonry backup and structural steel framing members with metal ties:

1. Provide minimum of one wall tie for each 2-2/3 sq ft of wall area.
2. Stagger ties in alternate courses.
3. Maximum distance between adjacent ties:
  - a. Vertically: 16 in.
  - b. Horizontally: 24 in.
4. Embed ties in horizontal joints of masonry.
5. Provide additional ties at openings:
  - a. Maximum spacing around perimeter: 24 in.
  - b. Install within 8 in. of opening.
6. NOTE: Use channel slot corrugated anchors to secure masonry veneer to structural steel columns and beams.

B. Anchor walls abutting concrete members with dovetail anchors inserted in slots built into concrete.

1. Maximum anchor spacing:
  - a. Vertically: 16 in.
  - b. Horizontally: 24 in.
2. Maintain a space not less than 1/2 in. wide between masonry wall and concrete members.
3. Keep space free of mortar or other rigid material to permit differential movement between concrete and masonry.

B. For intersecting bearing or shear walls carried up separately provide rigid steel anchors spaced not more than 2 ft apart vertically.

C. Anchor nonbearing partitions abutting or intersecting other walls or partitions with wall ties at vertical intervals of not more than 16 in.

3.06 INSTALLATION OF HORIZONTAL WALL REINFORCEMENT:

A. Unless otherwise shown on the Drawings, install continuous wall reinforcing in all exterior and interior unit masonry walls and partitions, spaced 16 in. vertically, commencing at the second block course for exterior masonry and at the first course for interior walls.

NOTE: Terminate continuous wall reinforcing on each side of control joints. Avoid placement of reinforcement in same joint in which thru-wall flashing occurs, or anchors or ties occur.

- B. Where openings occur in masonry walls, install reinforcing in the first and second bed joints 8 in. apart immediately above and below openings, extending 2 ft beyond the jambs. All other reinforcing shall be continuous. Lap side rods at least 6 in. at splices. Place reinforcing as to assure a 1/2 in. mortar cover on the faces of walls.
  - C. Use prefabricated or job fabricated corners and tee sections to form continuous reinforcement around corners, and for anchoring abutting walls and partitions. Material in corner and tee sections shall correspond to type and design of reinforcing used.
- 3.07 EXTERIOR VENEER WALLS:
- A. Construct exterior brick and CMU veneer walls as indicated. Take care to keep cavity free of mortar.
    - 1. Use of mortar board or other approved method is required.
  - B. Back-up portion of exterior walls, including light-gauge metal framing and gypsum sheathing, shall be constructed first. Fasten ties as previously specified. Interior face of CMU or brick shall have flush joints with no mortar projecting.
  - C. Lay-up face wythe, filling all joints and incorporating metal ties into joints of exterior veneer wall.
  - D. Drain base of cavity as specified under Paragraph DRAINING/VENTING OF CAVITY WALLS.
- 3.08 CAVITY-WALL REQUIREMENTS:
- A. Apply dampproofing to entire exterior surface of inner wythe, complying with manufacturer's recommendations and to achieve a uniform application at rate of 25 to 35 sq. ft. per gallon.
    - 1. Apply also to all surfaces of structural steel flush with or extending beyond the exterior face of the inner wythe.
  - B. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.
  - C. Install small pads of mortar or mastic spaced 1 ft-0 in. o.c. both ways on inside face, as recommended by manufacturer.
  - D. Keep air space free of mortar by use of cavity boards, lifted regularly and excess mortar removed.
  - E. Drain base of cavity as specified under Paragraph DRAINING/VENTING OF CAVITY WALLS.

3.09 FLASHING:

- A. Provide concealed through-wall flashing for masonry. Construct masonry to accommodate other flashing. Prepare masonry surfaces smooth and free from projections which might puncture flashing. Place through-wall flashing on bed of mortar and cover with mortar. Seal flashing penetrations with mastic before covering with mortar. Terminate flashing 1/2 in. from face of wall, unless otherwise shown. Extend flashings beyond edge of lintels and sills at least 4 in. and turn up edge on sides to form pan to direct moisture to exterior.
- B. Install flashings in accordance with manufacturer's instructions.
- C. Install reglets and nailers for flashing and other related work where shown to be built into masonry work.

3.10 DRAINING/VENTING OF CAVITY WALLS:

- A. Place pea gravel into bottom of cavity, to a depth of 4 in., directly over previously installed membrane flashing.
- B. Drain base of cavity by placing weeps in bottom course of exterior wythe, at approximately 24 in on centers unless otherwise indicated.
  - 1. Provide also at lintels, other locations where cavity is terminated.

3.11 CONTROL JOINTS:

- A. Build in control joints in masonry as shown and as required herein. Generally, control joints shall be placed in all walls with an unbroken length over 30 ft, one (1) vertical joint in walls 40 to 60 ft long, spaced as directed.
  - 1. Location of control joints not indicated on Drawings must be approved in advance by Architect.
- B. Control joint fillers as specified shall be installed in joints with a set back dimension of 3/4 in. for reception of back-up rod and sealant.

3.12 CLEANING AND REPOINTING OF MASONRY WORK:

- A. At the completion of the work fill all holes in joints of masonry surfaces to be exposed (except weep holes) with mortar and suitably tooled. Dry brush masonry walls at the end of each day's work and also after final pointing, leave clean and free from mortar spots and droppings. Repair any cracks in masonry. Cut out and repoint defective joints.
- B. Leave new exposed to view masonry that is not to be painted or coated any cleaning agent to the entire wall, apply it to a sample wall area of approximately 20 sq ft in an approved location. Do not proceed further with cleaning work until the sample area has been approved, after which time use the same cleaning materials and method on the remaining wall area. If stiff brushes and water do not suffice, thoroughly clean wet

surface of masonry with clear water and then scrub with a solution, i.e. Sure-Klean, or equal, followed immediately by a thorough rinsing with clear water. Thoroughly protect all sash and other corrodible elements during cleaning operations.

1. For mortar stains, use Sure-Klean No. 600, 101 or Vanitrol; or approved equal; as recommended by manufacturer for particular brick type and as determined by prior test samples.
2. Perform washing and cleaning only during warm weather, from April through November and only when the temperature is above 40 deg. F and rising.
3. Remove efflorescence, if in evidence, in accordance with the brick manufacturer's recommendations. Repeat cleaning as often as required to remove efflorescence to satisfaction of Architect.
  - a. *NOTE:* Include repeat cleaning during the one year Building Warranty period if necessary.

END OF SECTION



SECTION 05120 - STRUCTURAL STEEL

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of the work.

1.02 DESCRIPTION OF WORK:

- A. The work covered by this section includes the furnishing of all labor, material, equipment and incidentals and the performing of all operations in connection with Structural Metals as indicated on the DRAWINGS and/or herein specified. The work shall include but is not restricted to the following:
  - 1. Furnishing and erecting all steel beams, columns, lintels etc. necessary to complete the structural metal of the project.
- B. Related Work Specified Elsewhere
  - 1. Cast-in-place Concrete-Section 03300
  - 2. Unit Masonry-Section 04200

1.03 FURNISHED BUT INSTALLED BY OTHERS

- A. The structural metal supplier shall furnish anchor bolts, beam base plates and loose lintels. This material shall be installed under the applicable sections into which the material is to be set.
  - 1. Anchor bolts and other anchorage devices which are embedded in cast-in-place concrete or masonry construction shall be delivered to the project site in time to be installed before the start of the cast-in-place concrete operations or masonry work.

1.04 REFERENCE SPECIFICATIONS

- A. All design, fabrication and erection of structural metal shall be in accordance with the "AISC Specification for the Design, Fabrication & Erection of Structural Steel for Buildings", effective November 1, 1978, including all published supplements.
- B. All welding shall be in accordance with the "Structural Welding Code", AWS D1.1-latest edition.
- C. Bolting of structural joints shall be in accordance with " AISC Specification for Structural Joints Using ASTM A325 or A490 Bolts".

1.05 WELDER QUALIFICATIONS

- A. Welds shall be made only by welders, tackers and welding operators who have been previously qualified by tests as prescribed in AWS D1.1-latest edition of the American Welding Society to perform the type of work required.

1.06 SUBMITTALS

- A. Submit for review to Architect/Engineer, six prints each of erection and shop fabrication drawings, including anchor bolt setting plans.
- B. The Contractor shall submit for review to the Architect six copies of design calculations for all connections not detailed on the design drawings. The calculations shall be prepared and sealed by an engineer registered in the State of Maine.
- C. Drawings shall show all shop and erection details, type of steel, weld material and name of shop paint.



- D. Drawings shall be reviewed for size and arrangement of principal and auxiliary members and strength of connections. Any errors in dimensions shown on the shop drawings shall be the responsibility of the Contractor.

#### 1.07 JOB SITE STORAGE OF MATERIALS

- A. Structural metal members which are stored at the project site shall be above ground on platforms, skids or other supports and be protected from corrosion.
- B. Packaged materials shall be stored in their original unbroken package or container.
- C. Other materials shall be stored in a weathertight and dry place until ready for use in the work.

### PART 2 PRODUCTS

#### 2.01 MATERIALS

- A. Structural metal shall conform to the requirements of ASTM A36.
- B. Tube shall conform to the requirements of ASTM A500 Grade B, "Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes". Pipe shall conform to ASTM A501, "Hot Formed Welded and Seamless Carbon Steel Structural Tubing".
- C. Anchor bolts shall conform to Section 1C or ASTM A307.
- D. Standard threaded fasteners: Standard bolts and nuts shall conform to ASTM A325. Size shall be 3/4" unless otherwise noted.
- E. Shop paint shall be Tnemec 99 Red Metal Primer, Dupont 771 Red Lead or Pratt & Lambert #90 Noxide Red Lead Primer.

#### 2.02 FABRICATION

- A. Structural steel shall be fabricated in accordance with the specifications noted in Item 1.05, Standard Specifications.
- B. Connections:
  - 1. Connections, unless otherwise indicated, shall be framed beam connections and shall be in accordance with Part 4 of the "AISC Manual of Steel Construction".
    - a. Vertical spacing of bolt holes shall be 3" on center.
  - 2. Shop connections shall be welded or bolted.
    - a. All welds shall develop the full strength of the materials to be welded, unless otherwise indicated.
    - b. All welded connections which will be exposed in the finished structure shall be welded in such a manner as to make the finished connection neat and smooth in appearance, in accordance with Section 10 of the "AISC Code of Standard Practice".
  - 3. Field connections shall be bolted.

#### 2.03 PAINTING

- A. All steel shall be shop prime painted before shipment.
- B. Thoroughly clean all steel of loose mill scale, rust, dirt, weld spatter and other foreign matter by hand cleaning, meeting the requirements of Steel Structures Painting Council SSPC-SR-2. Grind smooth all sharp projections. Oil and grease deposits shall be removed by solvent wiping.
- C. After the steel has been cleaned, the paint primer shall be sprayed on the metal surfaces in accordance with the manufacturer's recommendations. Care shall be taken to insure that no running or sagging of the paint occurs. Shop paint shall not be applied at contact surfaces of bolted connections.
- D. Paint thickness shall have a minimum dry film of 2.0 mils. Maximum coverage shall be 400 Square feet per gallon.

- E. Parts inaccessible after assembly shall be given two coats of shop paint, preferably of two different colors.
- F. After erection, the General Contractor shall retouch all portions of the shop coat chipped or damaged during erection, and all field welds and connections, with the same paint as used for the shop coat.

### PART 3 EXECUTION

#### 3.01 FIELD ERECTION

- A. The structural metal shall be erected plumb and true to the lines and elevations indicated on the drawings.
- B. Erection tolerances shall be within the limits specified in Section 7.11 of the "AISC Code of Standard Practice".
- C. Temporary connections shall be adequate to take care of all dead load and erection imposed stresses.
- D. Temporary bracing shall be provided, wherever necessary, to hold the steel in a horizontal and vertical plane until permanent bolting has been completed.
- E. Final tightening of bolts shall be by the "turn-of nut" method described in Section 5C of the "Specifications for Structural Joints using ASTM A325 or A490 Bolts".

END OF SECTION



SECTION 05210 - STEEL JOISTS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of the work.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, as indicated on the DRAWINGS and specified herein. The items shall include but not be restricted to the following:
  - 1. Open web steel joists.
  - 2. Bridging, anchors, extended ends and special seats.
  - 3. Shop paint and field touch-up paint after erection.
- B. Related Work Specified Elsewhere: The following related work is to be performed under the designated SECTIONS:
  - 1. Furnishing and erection of structural steel : SECTION 05120, Structural Metals
  - 2. Furnishing and erection of metal decking : SECTION 05300, Metal Decking.

1.03 QUALITY ASSURANCE

- A. Welds shall be made only by welders, tackers and welding operators who have been previously qualified by tests as prescribed in AWS D1.1 (latest edition) of the American Welding Society to perform the type of work required.

1.04. REFERENCE SPECIFICATONS:

- A. Design, manufacture, transport and erect all steel joists in accordance with the requirements of the latest edition of the following reference standards:
  - 1. Steel Joist Institute (SJI)--latest standard specification.
  - 2. American Welding Society (AWS)--AWS D1.1 Structural Welding Code.

1.05 SUBMITTALS:

- A. Submit for review, to Architect/Engineer, six prints each of erection and shop fabrication drawings.
- B. Shop drawings shall indicate type, number, sizes, details and spacing of all members. Shop drawings shall indicate fastening methods for joists, bridging, anchors and all other details of erection.
- C. Shop drawings shall be reviewed for size and arrangement of principal and auxillary members and strength of connections. Errors in dimensions shown of these drawings shall be the responsibility of the Contractor.
- D. Fabrication of any materials or performing of any work prior to the final approval of the shop drawings will be entirely at the risk of the Contractor.

1.06 JOB SITE STORAGE OF MATERIALS:

- A. Joists shall be stored above the ground on platforms, skids or other supports to prevent corrosion. Place joists so that they will not become bent or otherwise damaged.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Steel joists and accessories shall be fabricated from materials conforming to ASTM Specifications and the latest Standard Specifications of the Steel Joist Institute.
- B. Shop paint shall be 10-99 Tnemec Primer, or equal, approved by the Architect/Engineer.

2.02 FABRICATION:

- A. All steel joists and accessories shall be fabricated in accordance with reference specifications, approved shop drawings and as herein after specified.
- B. All steel joists and accessories shall be cleaned of all scale, rust, weld slag, weld spatter and other foreign matter prior to receiving one coat of shop paint having a minimum dry film thickness of 2 mils.

PART 3- EXECUTION

3.01 ERECTION:

- A. All steel joists and accessories shall be erected and connected in accordance with reference specifications, approved shop drawings and as hereinafter specified.
- B. Set steel joists level, true and securely in position.
- C. Handle joists with care. Do not install bent or otherwise damaged joists. As soon as joists are erected, completely install and permanently attach all bridging before applying any load.
- D. Weld all steel joists to the structural steel supports at each end with 1/4 inch fillet welds, at least 2 inches long, at both sides of joist bearing plates.
- E. After all members and bridging are installed and secured in place, touch-up all welds and all bars, abraded and rusted areas using the same paint as the shop paint. Areas which are located at top flanges of beams and top chords of joists shall be touched-up before any steel decking is installed.

END OF SECTION

SECTION 05300 - METAL DECKING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of the work.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section.
- B. Related Work Specified Elsewhere:
  - 1. Structural Metals- SECTION 05120
  - 2. Steel Joists - SECTION 05210.

1.03 SUBMITTALS

- A. General: Provide submittals in compliance with SECTION 01340-QUALITY ASSURANCE; SUBMITTALS. Drawings shall indicate erection sequence, sheet length, type and size of decking in each area.

1.04. STANDARD SPECIFICATIONS:

- A. Metal deck shall conform to the Steel Deck Institute's "Basic Design Specifications for Steel Roof Deck Construction.
- B. Sections and calculations of their properties shall conform to the American Iron and Steel Institute's Specifications for the Design of Light-Gage Cold-Formed Steel Structural Members.
- C. Welding shall conform to AWS Code for Welding in Building Construction, latest edition.

1.05 HANDLING AND STORAGE:

- A. Handle decking with care. Use sufficient slings and buffers to prevent damage to pieces. Do unloading and hoisting by crane or by hand. Dumping of metal deck will not be permitted. Store metal deck off the ground, with one end elevated to provide drainage, and protected from the elements by a waterproof covering. Ventilate to avoid condensation.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Metal form deck shall be 19/32", 30" wide, 28 gauge galvanized.
  - 1. The basic steel shall be formed from cold-rolled steel conforming to ASTM Designation A611, Grade E, having a yield strength of 80,000 psi.
  - 2. Form deck shall have the following minimum section properties:  
 $S=0.035 \text{ in}^3/\text{ft.}$   $I=0.011 \text{ in}^4/\text{ft.}$
- B. Base steel coils shall have been zinc-coated before fabrication by continuous hot-strip process conforming to ASTM A525, Class G90, 1.25 ounce.
- C. Metal deck shall be of such length as to span over three or more supports with end joints staggered.
- D. Welding electrodes for metal roof deck shall be E70XX.

Phase II Renovations-State House

- E. Metal deck shall be manufactured by Wheeling Corrugating Company, Roll Form Products, Inc., Bowman Building Products Division, or approved equal.

PART 3- EXECUTION

3.01 ERECTION:

- A. The metal decking shall be placed in accordance with the erection drawings. End laps shall be a minimum of 2" and occur over a support, side lap one flute.
- B. Cut and fit deck units and accessories around other work projecting through or adjacent to the decking. Provide neat, square and trim cuts.
- C. Any deck that has been damaged or had flutes flattened after erection, shall be replaced with new sheets at least two spans long.
- D. Provide additional metal reinforcement and closure pieces as required for strength, continuity of decking and support of other work.
- E. All metal decking shall be welded to the supporting steel with 5/8" puddle welds immediately after alignment. Decking shall be welded through welding washers. Spacing of welds shall be 12" on center at each support member.
- F. Touch-up galvanized surfaces with galvanizing repair paint applied in accordance with the manufacturer's instructions.

END OF SECTION

**SECTION 05400 - LIGHTGAGE METAL FRAMING**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:
  - 1. Load-bearing punched channel studs for interior partitions as indicated.
- B. Related Work Specified Elsewhere:
  - 1. Metal studs for interior non-load bearing partitions: SECTION 09250 - GYPSUM DRYWALL.
  - 2. Gypsum drywall panels: SECTION 09250.
- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by the Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 QUALITY ASSURANCE; SUBMITTALS:**

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Reference Standards: Comply with following:
  - 1. AISC "Cold Form Design Manual, Specifications for the Design of Cold Formed Steel Structural Members."
  - 2. AWS D1.1 "Structural Welding Code."
  - 3. Metal Lath/Steel Framing Association "Lightweight Steel Framing Systems Manual."



- C. Design Criteria: Unless otherwise indicated on Drawings provide exterior wall framing system designed for maximum deflection of  $L/600$  of wall height measured from points of attachment to structural steel or concrete.
  - 1. Effect of drywall panels *shall not* be included in design calculations.
- D. Fire-Rated Assemblies: Where framing units are components of assemblies indicated for a fire-resistance rating, including those required for compliance with governing regulations, provide units which have been approved by governing authorities having jurisdiction.
- E. Certificates of Compliance: Submit certificates of compliance for all materials, signed by an officer of the manufacturing firm(s).
- F. Product Data: Submit complete product data for all materials, indicating section properties, standard details, finishes, and all other applicable information.
- G. Shop Drawings and Calculations: Submit design calculations and shop drawings for special components and installations not fully dimensioned or detailed in manufacturer's product data.
  - 1. Include design calculations, prepared under direction of a Maine Licensed Professional Engineer,
  - 2. Include placing drawings for framing members showing size and gage designations, number, type, location and spacing. Indicate supplemental bracing, splices, accessories, and details as required for proper installation.

## PART 2 - PRODUCTS

### 2.01 MATERIALS:

- A. Systems and Components: With each type of metal framing required, provide manufacturer's standard steel runners (tracks), deep leg tracks, blocking, lintels, clip angles, shoes, reinforcements, fasteners, and accessories as recommended by manufacturer for application indicated, as needed to provide a complete metal framing system.
- B. Component Design: Compute structural properties of studs and joists in accordance with AISC "Specification for the Design of Cold-Formed Steel Structural Members".
- C. Materials and Finishes:
  - 1. For 16-gage and heavier units, fabricate metal framing components of structural quality steel sheet with a minimum yield point of 40,000 psi; ASTM A 446, A 570, or A 611.

2. For 18-gage and lighter units, fabricate metal framing components of commercial quality steel sheet with minimum yield point of 33,000 psi; ASTM A 446, A 570, or A 611.
  3. Provide galvanized finish to metal framing components complying with ASTM A 525 for minimum G 60 coating.
  4. Unless otherwise indicated provide not lighter than 18 gauge studs.
- C. Manufacturers: One of following; or approved equal:
1. Alabama Metal Industries Corp.
  2. Allied Structural Industries.
  3. Bostwick Steel Framing Co.
  4. Ceko Corp.
  5. Dale Industries, Inc.
  6. Inryco/Milcor.
  7. Marino Industries Corp.
  8. Monex Corp.
  9. US Gypsum Co.
  10. Wheeling Corrugating Co.
- D. Accessories: Provide screws and other attachment devices as recommended by lightgage framing manufacturer. Provide only hot-dipped galvanized material; or approved non-ferrous metal, stainless steel or hardened plastic.
1. Size screws to provide not less than three full threads exposed after penetration through joined materials.

### PART 3 - EXECUTION

#### 3.02 ERECTION:

- A. Prefabrication: Structural framing components may be prefabricated into panels prior to erection. Fabricate panels plumb, square, true to line and braced against racking with joints welded. Perform lifting of prefabricated panels to prevent damage or distortion.
- B. Fastenings: Attach similar components by welding. Attach dissimilar components by welding, bolting, or screw fasteners, as standard with manufacturer.
  1. Wire tying of framing components is not permitted.

- C. Installation, General: Install supplementary framing, blocking and bracing in metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishings, and similar work.
- D. Installation of Studs: Install metal framing systems in accordance with manufacturer's printed or written instructions and recommendations, unless otherwise indicated.
1. Install continuous tracks sized to match studs. Secure tracks as recommended by stud manufacturer for type of construction involved.
  2. Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.
  3. Secure studs to top and bottom runner tracks by either welding or screw fastening at both inside and outside flanges; except as noted to be deflection type, long leg tracks.
  4. Provide slip joints where non-bearing vertical studs meet floor or roof structure, so as to provide minimum of 1-inch vertical deflection of structural system.
  5. Install horizontal stiffeners in stud system, spaced not over 4 ft-6 in on centers (vertical distance); closer where as indicated on final shop drawings or required by design calculations. Weld at each intersection.
  6. Anchor runner track securely to foundation, masonry and framing members.
  7. Anchor track with 1/2 in diameter anchor bolts to foundation and masonry, power actuated fasteners or welding to steel framing; not more than 24 in o.c. and no nearer than 4 in from either end of track.
  8. Seat studs squarely in track with stud flanges abutting track flanges.
  9. Plumb, align and squarely attach studs to flanges of top and bottom track.
  10. Install nested long leg tracks at heads of walls and partitions framing into structural steel to allow for 1/2 in vertical deflection.
  11. Touch-up all field abrasion to members from cutting, welding or other causes with a zinc-rich zinc-dust paint or primer.
- E. Framed Openings: Frame all openings as indicated by the final shop drawings and design calculations, but not less than double studs set horizontally for openings larger than 2-feet wide.

END OF SECTION

**SECTION 05500 - MISCELLANEOUS METALS**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:
  - 1. Metal railings and accessories.
  - 2. Metal pan stairs.
  - 3. Nosings for cast-in-place concrete stairs.
  - 4. Field touch-up painting of shop coats following installation, to correct all marred, abraded, or otherwise damaged surfaces.
- B. Furnish Only: Furnish and deliver to job site following items, for installation under designated Sections:
  - 1. Anchors and other items for support of Miscellaneous Metal items to be built-into concrete or masonry: DIVISIONS and 4.
- C. Related Work Specified Elsewhere: Following work is not part of this Section and is to be performed under the designated Sections or otherwise as noted:
  - 1. Bolts, anchors and other fastenings required to secure wood framing or blocking together and to other surfaces: SECTION 06100 - ROUGH CARPENTRY.
  - 2. Metal thresholds: SECTION 08710 - FINISH HARDWARE.
  - 3. Structural steel: SECTION 05120 - STRUCTURAL STEEL.
    - a. NOTE: Any structural or miscellaneous steel items not identified as to size and shape on the Structural Drawings are included under this SECTION 05500.
  - 4. Steel lintels and shelf angles, loose and fabricated types: SECTION 05120.
- D. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, and ascertain extent, if any, work of this Section will be affected by any Alternates.
- E. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/altera-

tion/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by the Architect.

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Shop Drawings: Submit shop drawings for fabrication and erection of miscellaneous metal fabrications. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation.
  1. Submit plans and sections at scale of not less than 1/2" = 1'-0".
- C. Codes and Standards: AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings"; AWS "Structural Welding Code"; comply with applicable provisions unless otherwise indicated.

PART 2 - PRODUCTS

2.01 MATERIALS AND COMPONENTS; FERROUS METAL:

- A. Steel Plates, Shapes, Bars: ASTM A 36.
- B. Cold-Formed Steel Tubing: ASTM A 500, Grade B.
- C. Steel Pipe: ASTM A 53, Type E or S, Grade B.
- D. Structural Cold-Rolled Steel Sheets: ASTM A 570.
- E. Concrete and Masonry Inserts: Malleable iron (ASTM A 47) or cast steel (ASTM A 27) inserts, with steel bolts, washers and shims; hot dip galvanized.
- F. Shop Paint: Fed Spec TT-P-86, Type II, or, SSPC-Paint 14. Apply to cleaned and degreased steel surfaces at rate to provide a 2.0-mil dry film thickness.
- G. Galvanizing: ASTM A 386 for assembled products; A 153 for iron and steel hardware.
- H. Metallic Non-Shrink Grout: Corps of Engineers CE C621.

2.02 FABRICATION, GENERAL:

- A. Fabrication, General: Use materials of size and thickness shown or, if not shown, of required size, grade and thickness to produce strength and

durability in finished product. Shop-paint all items not specified to be galvanized after fabrication.

1. Weld corners and seams continuously, grind exposed welds smooth and flush.
  2. Form exposed connections with hairline, flush joints; use concealed fasteners where possible.
- B. Rough Hardware: Furnish custom fabricated bolts, plates, anchors, hangers, dowels, and other miscellaneous steel and iron shapes for framing and supporting and anchoring woodwork.
- C. Galvanizing: Galvanize all ferrous metal exposed to the weather, after fabrication, unless otherwise indicated.
- D. Steel Railings: Fabricate to dimensions shown, with smooth bends and, except as otherwise shown, welded joints using 1-1/2 I.P.S. steel pipe and bar stock as indicated. Secure posts and rail ends to building construction as indicated.
1. Fabricate exterior steel railings of galvanized metal, including pipe, fittings, brackets, fasteners and other ferrous metal components.
  2. Provide black steel pipe for interior railings, primed after fabrication.
- E. Abrasive Nosings: American Abrasive Metals Co. DSA 2, 2 in deep, color as selected; or approved equal.
1. Length: Width of stair less 6-12 in.
- F. Miscellaneous Framing and Supports: Provide as required to complete work and not included with structural steel framework. Fabricate of welded construction in as large units as possible; drill and tap as required to receive hardware and similar items. Include required anchors for building into other work; spaced not more than 24" o.c.
- H. Miscellaneous Steel Trim: Fabricate to shapes and sizes as required for profiles shown; continuous welded joints and smooth exposed edges. Use concealed field splices wherever possible. Provide cutouts, fittings, and anchorages; coordinate assembly and installation with other work.
- 2.03 STAIR FABRICATION, GENERAL REQUIREMENTS:
- A. Compliance: Provide steel stairs complying with all requirements of the applicable building codes, OSHA, and unless indicated otherwise recommended practices of NAAMM, whichever is the more stringent.
- B. Design: Contractor shall be fully and solely responsible for the design, fabrication, and erection of steel stairs that will support safely the total loads (including suspended ceiling assemblies, partitions, and other assemblies supported by the stairs, plus a live

load of not less than 100 lbs per sq ft of tread and platform area, as well as a moving point load of 1,000 lbs.

- C. Sizes of Members: Provide stringers, pans, and other components as required to comply with loading requirements.
- D. Fabrication:
  - 1. Use welding for joining pieces together, unless otherwise shown or specified. Fabricate units so that bolts or other fastenings do not appear on finish surfaces. Make joints true and tight, and make connections between parts light-proof tight. Provide continuous welds, ground smooth where exposed.
  - 2. Construct stair units to conform to general sizes and arrangements as shown. Provide metal framing, hangers, columns, railings, newels, balusters, struts, clips, brackets, bearing plates, and other components for the support of stairs and platforms. Erect stair work to line, plumb, square, and true with runs registering level with floor and platform levels.
  - 3. Provide brackets and bearing surfaces as required to anchor and contain the stairs on the supporting structure.
- E. Stair Framing:
  - 1. Fabricate stringers of structural steel channels, tubes, or plates, or a combination thereof. Provide closures for exposed ends of stringers.
  - 2. Construct platforms of structural steel channel headers and miscellaneous framing members. Bolt or weld headers to strings and newels. Bolt or weld framing members to strings and headers.

#### 1.04 METAL PAN STAIRS:

- A. Form metal pans of not lighter than 14 gauge structural steel sheets. Shape pans to conform to the configuration shown.
- B. Construct riser and subtread metal pans with steel angle supporting brackets, of size shown, welded to strings. Secure metal pans to brackets with rivets or welds. Provide platforms of the same metal and not lighter than same gauge as provided for metal pans of stairs.
- C. Secure subplatform metal pans to platform frames with welds.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION; GENERAL:

- A. Perform cutting, drilling and fitting required for installation; set work accurately in location, alignment and elevation, measured from established lines and levels. Provide anchorage devices and fasteners where necessary for installation to other work.

- B. Set loose items on cleaned bearing surfaces, using wedges or other adjustments as required. Solidly pack open spaces with bedding mortar, consisting of 1 part portland cement to 3 parts sand and only enough water for packing and hydration, or use commercial non-shrink grout material.
- C. Touch-up shop paint after installation. Clean field welds, bolted connections and abraded areas, and apply same type paint as used in shop. Use galvanizing repair paint on damaged galvanized surfaces.

END OF SECTION





SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

1. Wood framing.
  - a. Include stringers, carriages, headers and other framing for wood stair as indicated.
  - b. Include rafters, joists, headers and other roof framing members as indicated.
  - c. Include wood studs and other framing for walls and partitions.
2. Wood grounds, nailers, blocking, furring, sleepers and similar rough carpentry members.
3. Plywood sheathing, flooring, treads, other locations indicated.
4. Treated wood as specified.
5. Miscellaneous carpentry as indicated or required and not specified under other Sections of the Specifications.
6. Fasteners and accessories as indicated and required for rough carpentry.

- B. Related Work Specified Elsewhere:

1. Wood decking: SECTION 06130.
2. Prefabricated wood trusses: SECTION 06192.
3. Architectural woodwork: SECTION 06410.
  - a. Furring, studding and other rough carpentry for direct support of architectural woodwork is part of SECTION 06410.
4. Furnishing and installing of doors and frames: SECTION 06410 and DIVISION 8.

## Phase II Renovations, State House

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
  - D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
    - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.
- 1.03 QUALITY ASSURANCE; SUBMITTALS:
- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE AND SUBMITTALS.
  - B. Submittals: Submit following:
    - 1. Wood treatment data including treatment plant's certification of compliance with indicated requirements.

## PART 2 - PRODUCTS

### 2.01 LUMBER:

- A. General: Provide lumber, S4S, S-Dry unless otherwise indicated, grade marked, complying with PS 20 and following requirements.
  - 1. Appearance Grade: For all wood structural framing provide material meeting Appearance Grade requirements of PS20 and rating organization.
- B. Light and Structural Light Framing (2 in-4in thick, 2 in-6 in wide): Grade and species indicated below:
  - 1. No. 1 or Construction Grade.
  - 2. Any species graded under WWPA, WCLB or NELMA rules.
- C. Structural Joists and Planks (2-4 in thick, 8 in and wider): Any grade and species complying with requirements for allowable unit stresses.
  - 1. Fb (minimum extreme fiber stress in bending): 1,200 psi.
  - 2. E (minimum modulus of elasticity): 1,200,000 psi.
- D. Studs: (2-4 in thick, 2-6 in wide, 10 ft and shorter): "Stud" or No. 3 Structural Light Framing grade, any species graded under WWPA, WCLIB, SPIB, NELMA or NLGA rules.

## Phase II Renovations, State House

- E. Concealed Boards: Standard grade, any species graded under WPA rules or No. 3 grade Southern Pine graded under SPIB rules.
- F. Lumber for Miscellaneous Uses: Unless otherwise indicated, provide Standard grade lumber for support of other work, including cant strips, bucks, nailers, blocking, furring, grounds, strapping and similar uses.

### 2.02 PLYWOOD:

- A. General: Provide APA graded panels complying with PS 1/ANSI A199.1 for type of applications indicated.
- B. Backing for Electrical and Telephone Equipment: APA C-D PLUGGED INT with exterior glue, fire-retardant treated to provide UL "B" label, 1/2 in thick unless otherwise indicated.
- C. Plywood Roof Sheathing (Storage Shed Alternate): APA CDX SHEATHING.

### 2.03 TREATED WOOD:

- A. Preservative Treatment: Preservatives pressure treat lumber and plywood with water-borne preservatives to comply with AWPAC2 and C9, respectively, and with requirements indicated below:
  - 1. Wood for Ground Contact Use: AWPB LP-22.
  - 2. Wood for Above-Ground Use: AWPB LP-2.
  - 3. Treat following members:
    - a. Sills, carriages, plates, sleepers, blocking, furring, strapping and similar items in direct contact with masonry or concrete.
- B. Fire-Retardant Treated Wood: Where wood is indicated for fire-retardant treatment comply with AWPAC20 (lumber) and AWPAC27 (plywood). Provide UL label in each piece treated. Redry treated lumber.

### 2.04 ACCESSORIES; FOR WOOD AND PLYWOOD:

- A. Fasteners and Anchorages: Provide size, type, material and finish suited to application shown and complying with applicable standards including Fed. Spec. FF-N-105 and ANSI B 18.6.1. Provide metal hangers and framing anchors of size and type recommended for intended use by manufacturer. Hot-dip galvanized fasteners and anchorages for work exposed to weather, in ground contact and high relative humidity to comply with ASTM A 153.
- B. Building Paper: Asphalt saturated felt, non-perforated ASTM D 226.

PART 3 - EXECUTION

3.01 INSTALLATION OF LUMBER AND PLYWOOD:

- A. Install rough carpentry work to comply with "Manual of House Framing" by National Forest Products Assoc. (N.F.P.A.) and with recommendations of American Plywood Association (APA), unless otherwise indicated. For sheathing, underlayment and other products not covered in above standards, comply with recommendation of manufacturer of product involved for use intended. Set carpentry work to required levels and lines, with members plumb and true and cut to fit.
- B. Securely attach carpentry work to substrates and supporting members using fasteners of size that will not penetrate members where opposite side will be exposed to view or receive finish materials. Install fasteners without splitting wood; fasten panel products to allow for expansion at joints unless otherwise indicated.
- C. Provide wood framing members of size and spacing indicated; do not splice structural members between supports. Firestop concealed spaces with wood blocking not less than 2 in thick, if not blocked by other framing members.
- D. Secure plywood backing for telephone and electrical panels to light-gauge metal studs with approved self-tapping sheet metal screws, at not less than 6 in. on centers along edges and 8 in. on centers in field. Locate vertical edges only at supports.
- E. Install plywood roof sheathing as follows:
  - 1. Nail only to wood or nailers. Stapling will not be acceptable.
  - 2. Use only deformed shank nails, not lighter than 8-penny for 3/4 inch plywood, 6-penny for 5/8 inch plywood or thinner.
  - 3. Nail at not over 6 inches on centers along edges and 8 inches on centers if fields of plywood.
  - 4. Place plywood ends only over supports. Provide plyclips at center of span, or solid blocking under long edges.
- F. Install plywood subfloors, treads, risers and other members by nailing or glue nailing to supports.

(Continued on Following Page)

## 3.02 LUMBER NAILING SCHEDULE:

- A. Unless otherwise indicated, provide not less than the following number and size for the members indicated. For items not indicated provide nails as required to develop equivalent strength subject to approval of Architect.

Blocking to joist bearing	2 - 10d toe nailed each side.
Blocking to joist or stud	2 - 10d toe nailed each side.
One in. brace to stud	2 - 8d face nailed.
2 in. brace to stud side.	2 - 16d toe nailed each side.
Lintels, headers, joists to stud	2 - 10d toe nailed each side.
Multiple joists, lintels, headers	16d @ 12 in. on centers,
Plates:	
To joists	2 - 16d face nailed
Upper to lower	16d @ 12 in. on centers, staggered.
Plate lap to corners	2 - 16d face nailed
At splices	2 - 16d face nailed
Studs toe nailed to plates:	
4 in.	2 - 10d each side.
6 in.	3 - 10d each side.
Studs end nailed to plate	2 - 20d
Studs nailed together	16d @ 12 in. on centers, staggered.

END OF SECTION



SECTION 06130 - WOOD DECKING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of the work.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:
  - 1. Wood decking for the Multi-Purpose Room roof and other locations as shown on the DRAWINGS.
- B. Relate Work Specified Elsewhere- The following related work is to be performed under the designated SECTIONS:

- 1. SECTION 06100 - ROUGH CARPENTRY

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Submittals: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- C. Each piece shall carry an independent inspection stamp.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Wood Deck:
  - 1. Wood deck shall be select quality tongue and groove 1"x4" Eastern Spruce or equal with an allowable bending stress of 1450 psi.
  - 2. The decking shall be unfinished.



PART 3 - EXECUTION

3.01 ERECTION:

- A. The wood deck shall be of such length to span over at least three joist spaces.
- B. The distance between end-joints in adjacent rows of decking shall be at least two feet.
- C. The distance between end-joints in rows of decking separated by only one row shall be one foot minimum.
- D. End joints shall be eliminated in one third of the courses of decking in end spans.
- E. Application:
  - 1. Wood Deck:
    - a. Application shall be made by nailing each piece at each support with one 8d toe nail and one 16d face nail.
- F. Decking shall be covered with 6 mil poly adequately secured with wood batten strips on a daily basis as decking is laid.

END OF SECTION

SECTION 06190 - WOOD TRUSSES

PART 1- GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of the work.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:
  - 1. Wood trusses of the types, sizes and in the locations shown on the drawings and specified herein.
- B. Related Work Specified Elsewhere - The following related work is to be performed under the designated SECTIONS:
  - 1. Carpentry Items including roof sheathing: SECTION 06100, ROUGH CARPENTRY.
  - 2. Standing Seam Metal Roof: SECTION 07600, METAL ROOFING AND FLASHING
  - 3. Installation of Wood Trusses: SECTION 06100, ROUGH CARPENTRY.

1.03 SHOP DRAWINGS

- A. Submit complete shop drawings in accordance with the requirements of the GENERAL CONDITIONS and SUPPLEMENTARY CONDITIONS.
- B. Submit complete design data, design analysis, computations and state the species and commercial grade of lumber used.

1.04 QUALITY ASSURANCE

- A. Acceptable Licensed Fabricators and Members of T.P.I.:
  - 1. Gangnail Truss Systems.
  - 2. Truswal System, Inc.
  - 3. Bostitch Truss, Inc.
  - 4. Or approved equal.
- B. Design, details, and fabrication shall be in accordance with the Truss Plate Institute "Design Specification for Metal Plate Connected Wood Trusses", TPI-78.
- C. Stamp each truss with the name and address of the licensed fabricator.

1.05 DELIVER, STORAGE AND HANDLING

- A. Deliver materials to the job site in an undamaged condition.
- B. Handle and store the materials to avoid damage of any kind.
- C. Store in fully covered, well ventilated areas, protected from extreme changes in temperature and humidity.
- D. Remove damaged materials from the site and replace at no additional cost to the Owner.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All Lumber: Conform to the latest edition of "National Design Specifications for Wood Construction" N.F.P.A.

## Phase II Renovations-State House

- B. Moisture Content: At time of fabrication, all lumber shall be within the limits, as stated in the reference specifications.
- C. All members to be cut from lumber which bears the proper grade-mark stamp of a recognized grading associations or licensed lumber inspection agency.

### 2.02 CONNECTORS

- A. All steel truss connector plates:
  - 1. Galvanized sheet steel.
  - 2. ASTM A 446-72, Grade A.
  - 3. Min. yield stress of 33,000 psi.
  - 4. Min. ultimate tensile strength of 45,000 psi.
  - 5. Corrosion resistant coating, ASTM A 525-71 G90 or G60 commercial class hot dipped galvanized.
- B. All field assembly of truss sub-components shall be as shown on the Drawings, specified herein and as approved by the Architect/Engineer.

### 2.03 FABRICATION

- A. All trusses:
  - 1. Manufactured by experienced workmen and under the direct supervision of a qualified foreman.
  - 2. Fabricated under strict rules of inspection and quality control of local codes and ordinances, and open to inspection of the Engineer.
- B. Cut all truss members accurately to length, angle, and true to line to assure tight joints.
- C. Tightly clamp in place all truss members and connector plates until the connector plates have been pressed into the lumber simultaneously in both sides of the joints.

## PART 3- EXECUTION

- A. Installation:
  - 1. Hoist trusses into place using non-marring slings or suitable protective means to prevent surface damage.
  - 2. Place trusses fully on permanent supports as shown on the DRAWINGS. Hold trusses true and plumb and in safe condition until permanent truss bracing can be solidly nailed in place to form a structurally sound roofing system.
  - 3. During the entire construction period, provide means for adequate distribution of concentrated loads so that the carrying capacity of any one truss and/or other component is not exceeded.

END OF SECTION

**SECTION 06410 - ARCHITECTURAL WOODWORK (INCLUDING STILE & RAIL DOORS)**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:
  - 1. Standing and running trim as indicated, including baseboards, chair rails, picture molding, other work indicated.
    - a. Include extensions and matching of existing molding as indicated and required.
    - b. Include interior and exterior wood trim at windows as indicated.
  - 2. New stile and rail wood doors as indicated. (Main Building except as indicated.)
    - a. Include altering/patching of existing doors as indicated.
    - b. Include transom panels as indicated.
  - 3. Wood shelving.
  - 4. Plastic laminate faced countertops.
    - a. Include cutouts for plumbing fixtures and trim, other work to be set in countertops.
    - b. Include countertops for modular laminate casework.
  - 5. Wood column enclosures.
  - 6. Wood trim members at stair as indicated.
- B. Install Only: Install following items, furnished and delivered to jobsite under other related Sections as indicated.
  - 1. Finish hardware for stile and rail doors: SECTION 08710 - FINISH HARDWARE.
    - a. Include replacing of hardware on existing doors as scheduled.
  - 2. Solid plastic countertop material: SECTION 10162 - TOILET COMPARTMENTS.

- C. Furnish Only: Furnish to jobsite all anchors, inserts and other items required to be built-in with concrete or masonry.
    - 1. Deliver in timely fashion so as to avoid any delay in the work.
  - D. Related Work Specified Elsewhere:
    - 1. Rough carpentry: SECTION 06100.
      - a. **NOTE:** Furring, nailers, blocking and other rough carpentry to accommodate architectural woodwork is included under *this* Section 06410.
    - 2. Modular laminate casework: SECTION 06450 - MODULAR LAMINATE CASEWORK.
      - a. **NOTE:** All finish carpentry or casework *not* indicated by manufacturer's catalog numbers is included under *this* Section 06410.
    - 3. Metal door frames: SECTION 08100.
    - 4. Flush solid core wood doors: SECTION 08210.
    - 5. Finish painting of architectural woodwork: SECTION 09900.
  - D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
    - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.
- 1.03 QUALITY ASSURANCE:
- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
  - B. Quality Marking:
    - 1. Mark each door with manufacturer's identification and standard quality rating system. Locate on hinge stile.
    - 2. For other woodwork items submit certificate of compliance in lieu of marking individual pieces.
  - C. AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.

1. Grade: Except as otherwise specified or shown on Drawings, comply with AWI requirements for "Custom" Grade.
  - D. Product Data: Submit for all finish hardware items.
  - E. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large scale details, attachment devices and other components. Submit shop drawings for the following:
    1. Doors, including complete schedule.
    2. Column enclosures.
  - F. Samples: Submit the following samples for each species and cut or pattern of architectural woodwork:
    1. Wood molding sections.
    2. Door moldings.
    3. Solid wood with or for transparent finish; set of 3 pieces, 6 in. by 3/4 in. by 18 in., for each species, finished on one side and one edge.
    4. Column enclosures cap, base, plinth and shaft (representative samples).
- 1.06 PRODUCT DELIVERY, STORAGE AND HANDLING:
- A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
  - B. Do not deliver woodwork, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas.
- 1.07 JOB CONDITION:
- A. Conditioning: Installer shall advise Contractor of temperature and humidity requirements for woodwork installation areas. Do not install woodwork until proper temperature and relative humidity have been stabilized and will be maintained in installation areas.

## PART 2 - PRODUCTS

### 2.01 WOOD:

- A. Solid Wood for Transparent Finish: Match existing in all respects including species and graining characteristics.
  1. Unless otherwise indicated, or required to match existing adjacent wood finish, provide wood for transparent finish for all locations outside of the Press Corps area.

- B. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
  - C. Solid Wood for Opaque Finish: Poplar or other closed-grain hardwood listed in referenced woodworking standard.
    - 1. Unless otherwise indicated provide wood for opaque finish in Press Corps area.
  - D. Plywood for Transparent Finish: Rift-cut Red Oak.
  - E. Plywood for Opaque Finish: Hardwood plywood, Yellow Birch.
  - F. Column Trim: As indicated.
- 2.02 COLUMN ENCLOSURES:
- A. Provide wood column enclosures as indicated, complete with base, cap, plinth, and other accessories and trim as indicated or required.
  - B. Product: Koll's Lock-Joint Stave Constructed Wood columns manufactured by Hartmann-Sanders Company, Column Division, Atlanta, GA 30360; or approved equal.
    - 1. Design: No. 200 Tuscan Plain Shaft Column, Tuscan Base.
  - C. Design: Provide correct proportions based on Orders of Architecture.
  - D. Lumber Species: Clear Poplar for interior columns.
  - E. Construction:
    - 1. Provide joints pressure-glued with Type II waterproof glue.
    - 2. Provide exterior portions factory primed with two coats of paint.
    - 3. Provide wood plinths.
    - 4. Provide all matching pilasters or square columns made by the column manufacturer consistent with above specifications.
- 2.03 STILE AND RAIL DOORS:
- A. General: Comply with requirements of Architectural Woodwork Institute (AWI), Section 1400 - Stile and Rail Doors.
    - 1. AWI Grade: Premium.
      - a. Interior Doors: For transparent finish, specie and graining characteristics to match existing adjacent doors.
      - b. Exterior Doors (Press Corps): For opaque finish.

- B. Main Buildings: Unless otherwise indicated, match existing adjacent doors in all respects, including wood specie and graining characteristics.
  - 1. Where required measure existing openings, fabricate new doors to suit and to provide proper operating clearance.
- C. Existing Doors: Patch as indicated and required.
- D. For Press Corps Exterior Doors, fabricate with Type I exterior glue, solid lumber and veneer core (only) plywood, all lumber and plywood preservatives treated prior to fabrication in door, door cut to net size and primed at shop or factory.

2.04 COUNTERTOPS AND PLASTIC LAMINATE:

- A. Plastic Laminate: Comply with NEMA LD-3 for type, thickness, color pattern and finish as indicated for each application, or if not indicated, as selected by Architect from manufacturer's standard products. Provide types as specified, or if not specified to comply with requirements of reference documents.
  - 1. Plastic Laminate Type: 0.050 in. thick; UL tested and labeled ratings of 25 for flame spread, 25 for fuel contributed and 100 for smoke developed when bonded to wood particle board.
  - 2. Edging: Self-edged (plastic laminate) unless otherwise indicated, same material as face.
  - 3. Colors: Use plastic laminate from manufacturer(s) offering a minimum of 30 solid colors in all textures for selection by Architect.
  - 4. Core Material: Particle board unless otherwise indicated.
- B. Solid Plastic: Fabricate countertops as indicated from material matching the toilet compartments, as furnished under SECTION 10162.
- C. Sealant: Provide sealant at all edges of countertops and walls or other abutting surfaces, type as manufactured or recommended in writing by manufacturer of plastic laminate, color to match plastic laminate.
  - 1. Silicone Sealant: Mildew resistant type, formulated for pointing of tile, color to match the plastic laminate or solid plastic material where feasible; or clear as directed by Architect.
- D. Fabrication: Except as otherwise indicated, provide separate plastic laminate countertops (installed on other casework or other support system as indicated) to comply with requirements for casework for plastic laminate finish. Include aprons, backsplashes and other related items.
  - 1. Grade: Premium, for all countertops.
  - 2. Backing: As required by AWI standard. Do not use scrap pieces.



PART 3 - EXECUTION

3.01 PREPARATION:

- A. General: Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.

3.02 INSTALLATION:

- A. Install work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8 in. in 8 ft.-0 in. for plumb and level (including countertops); and with 1/16 in. maximum offset in flush adjoining surface, 1/8 in. maximum offsets in revealed adjoining surfaces.
- B. Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
- C. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, and comply with Quality Standards for joinery.
  - 1. Where indicated and required, neatly cut existing moldings and other trim at 45 degree miter, install new material to match as required. Secure to walls in same manner as existing so as to match appearance throughout.
- D. Anchor woodwork to anchors or blocking built-in or directly attached to substrates. Secure to grounds, strapping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fasteners heads are required, use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork, and matching final finish where transparent finish is indicated.
- E. Countertops and Other Plastic Laminate: Anchor securely to base units and other support systems as indicated.
  - 1. Seal joints at internal corners countertops and backsplashes or other construction with sealant matching color of plastic or plastic laminate.
  - 2. Scribe countertops without backsplashes to wall; seal with silicone sealant matching color of plastic laminate; or clear if directed by Architect.
- F. Doors and Finish Hardware: Install finish hardware on new and existing doors as indicated and scheduled. Fit doors and frames to receive the new hardware. Comply with requirements of final hardware schedule and recommendations of the hardware manufacturers. Adjust all hardware to proper operating condition.

1. Patch existing doors and frames to conceal evidence of existing hardware to be removed.
  - G. Utility Storage Shelving: Complete assembly of units and install in areas indicated, including hardware and accessories as indicated.
- 3.03 ADJUSTMENT, CLEANING, FINISHING AND PROTECTION:
- A. Repair damaged and defective woodwork wherever possible to eliminate defects functionally and visually; where not possible to repair properly, replace woodwork. Adjust joinery for uniform appearance.
  - B. Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION



**SECTION 06450 - MODULAR LAMINATE CASEWORK**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:
  - 1. Premanufactured modular laminated plastic faced casework and other work indicated on Drawings by reference to manufacturer's (LSI) catalog numbers.
  - 2. Factory finishing of all work specified herein.
  - 3. Finish hardware and accessories for work specified herein.
  - 4. Wood furring, grounds, blocking, nailers and other rough carpentry required for proper installation of work specified herein.
    - a. Include cleats and other rough and finish carpentry items required for support of counters.
  - 5. Screws, anchors and other fasteners for securement of architectural woodwork to itself and to supporting construction.
- B. Furnish Only: Furnish to jobsite all anchors, inserts and other items required to be built-in with concrete or masonry.
- C. Related Work Specified Elsewhere:
  - 1. Custom architectural woodwork as specified under SECTION 06410, including:
    - a. Plastic laminate faced countertops for all casework, including for casework specified herein.
    - b. Utility wood shelving.
- D. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- E. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

Phase II Renovations, State House

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.

- B. Intent: The intent of the Drawings and Specifications is to obtain first quality products, consistent with the design intent of the Architect. To this end only the products of pre-qualified manufacturers as installed by pre-qualified installers may be used in the Work.

1. Prequalified Manufacturer and Installer: LSI Corporation of America, Series L-44 products, as furnished and installed by the Robert H. Lord Company, has been prequalified as bidder for the work specified herein.

- a. Subject to compliance with requirements specified herein, Stevens Cabinet Company, Teutopolis, IL 62467, is also been pre-qualified as bidder for the work specified herein. Requirements include but are not limited to following:

- (1) 3mm edging.
- (2) Three-ply particleboard.
- (3) Glued and doweled joints.
- (4) Machine squared cabinets, cabinets delivered job set-up.
- (5) Concealed hinges, 270 degree swing.
- (6) High pressure laminate door and drawer fronts, exposed ends.
- (7) Plywood or solid wood subbase.

- b. Except as specified otherwise hardware materials and finish standard with Stevens will be acceptable.

2. Substitute Proposals: Suppliers or Installers desiring to bid products by other manufacturers shall submit evidence of equality to Architect not less than ten days prior to the date scheduled for receipt of General Contract Bids. Such evidence shall be delivered F.O.B. the Architect's office and shall include:

- a. Full documentation including specifications and test results
- b. List of nearby completed installations.
- c. Base cabinet sample, including drawer, door, and shelf.
- d. Samples of available color selection.

Phase II Renovations, State House

3. Variations: In addition to general quality level and experience of manufacturers and installers, Architect will consider aesthetic design and may reject proposed substitutions varying too greatly from the designs of the items specified.
4. Additional Pre-qualified Bidders; Proposed substitutions deemed by Architect to be equal to the specified products will be included in an Addendum issued by Architect, listing the additional pre-qualified bidders. Only pre-qualified bidders may be used in the Work of the Project.

1.04 REFERENCES:

- A. AWI Quality Standard: As a minimum requirement comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.
  1. Section: Only Section 1600, Modular Casework of the AWI Standard, including Division 1600B, Laminate Clad Cabinets and Division 1600c, Tops, applies.

1.05 SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Product Data: Submit manufacturer's specifications and installation instructions for each item of factory-fabricated woodwork.
  1. Quality Certification: Submit fabricator's certification, stating that the fabricated work complies with quality grades and other requirements indicated.
- C. Shop Drawings: Submit shop drawings for all items, showing location of each item, dimensioned plans and elevations, large scale details, attachment devices and other components.
- D. Samples: Submit the following samples for each species and cut or pattern of architectural woodwork:
  1. Solid wood with or for transparent finish; set of 3 pieces, 6 in. by 3/4 in. by 18 in., for each species, finished on one side and one edge.
  2. High pressure laminate.
  3. Low pressure laminate (decorative board).
  4. Edge treatment.
  5. Construction samples, if requested by Architect, including:
    - a. Top construction, showing corners and finished edges.

## Phase II Renovations, State House

- b. Cabinet construction, with cut-away corners.
- c. Door construction, with cut-away corners.
- d. Finishes.
- e. Finish hardware.

### 1.06 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- B. Do not deliver units until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, units must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

### 1.07 JOB CONDITIONS:

- A. Conditioning: Installer shall advise Contractor of temperature and humidity requirements for woodwork installation areas. Do not install woodwork until required temperature and relative humidity have been stabilized and will be maintained in installation areas.
  - 1. Maintain temperature and humidity in installation area as required to maintain moisture content of installed woodwork within a 1.0 percent tolerance of optimum moisture content, from date of installation through remainder of construction period. The fabricator of woodwork shall determine optimum moisture content and required temperature and humidity condition.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURER:

- A. Drawings and specifications are based on Series L-44 products of LSI Corporation of America.
- B. Provide only products as specified, or those of a pre-approved equal included in a list of pre-qualified issued by Addendum during the bidding period.

### 2.02 MATERIALS AND FABRICATION:

- A. Construction and Joinery:
  - 1. Provide dado or rabbeted joints, utilizing hot melt glue and dowels, with completed cabinets machine squared.

## Phase II Renovations, State House

2. Provide glues and doweled joints (1-1/4 inch on centers). Let backs and drawer bottoms into adjacent walls on 4 sides, with additional bead of hot melt glue.
  3. Mechanical fasteners not allowed.
  4. Machine square cabinets and deliver to jobsite set-up.
- B. Material and Thicknesses:
1. Sides, tops and bottoms: 3/4 inch except 1-inch for wall cabinet tops and bottoms.
  2. Door and Drawer Fronts: 13/16 inch.
  3. Shelves: 3/4 inch to 36 inch lengths and 1-inch over 36 inches.
  4. Drawer Sides and Backs: 1/2 inch, with drawer sub-fronts 5/8 inch.
  5. Sub-Base: 3/4 inch continuous Fir plywood. Do not allow particle board side panels to extend to floor.
- C. Core Material: Particleboard, 3-Ply construction complying with CS 236, Type 1, Density c, Class 1; and Fed. Spec. LLL-B-800; minimum density of inner ply 25 pcf with minimum urea content of 7 percent; minimum density of outer plies 47 pcf, minimum urea content of 14 percent, maximum flake size 0.10 inch.
- D. Finish Materials and Colors:
1. General: Except as otherwise specified, provide colors as selected by Architect from manufacturer's standard available selection.
  2. Door and Drawer Fronts, Finished Ends: High-pressure plastic laminate, 0.032 inch.
  3. Semi-Exposed Surfaces: Balancing polyester resin overlay of 9 to 10 mil thickness meeting NEMA standards for heat resistance, wear, impact, boiling water and solvents, and ASTM D 1300 for stains.
    - a. Color: Manufacturer's standard.
  4. Cabinet Backs and Drawer Bottoms: Prefinished 3/8 inch and 1/4 inch tempered hardboard meeting or exceeding Commercial Standard CS 251 and Federal Specifications LLL-B-00810.
  5. Door and Drawer Edge System: 3MM PVC with 3MM front-to-back radius edge and 3MM radius corner, 3-millimeter.
    - a. Color: 3 millimeter, manufacturer's standard.
- D. Finish Hardware:
1. Hinges: Concealed, adjustable 176 degree swing; Grass 1200.



2. Pulls: Wire design, Stanley 4483-1/2; US 28 finish.
3. Drawer Glides: National Lock 100 pound nylon ball bearing with positive stop to prevent drawer front-cabinet contact, extended position keeper, and side sway adjustment.
4. Shelf Clips: Nylon LH-352 with no-slide lock adjustable 1-1/4 inch on centers.

### PART 3 - EXECUTION

#### 3.01 PREPARATION:

- A. General: Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.
- B. Pre-Installation Meeting: Meet at project site prior to delivery of laminated casework and review coordination and environmental controls required for proper installation and ambient conditioning in areas to receive work. Include in meeting the Contractor; Architect and other Owner Representatives (if any); installers of custom architectural casework, wet trades such as plastering, other finishes, painting, mechanical work and electrical work; and firms or persons responsible for continued operation (whether temporary or permanent) of HVAC system as required to maintain temperature and humidity conditions. Proceed with casework installation only when everyone concerned agrees that required ambient conditions can be properly maintained.
- B. Deliver concrete inserts and similar anchoring devices to be built into substrates, well in advance of time substrates are to be built.
- C. Prior to installation of casework, examine shop fabricated work for completion, and complete work as required, including back priming and removal of packing.

#### 3.02 INSTALLATION:

- A. Comply with manufacturer's recommendations and final shop drawings.
- B. Install work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8 in. in 8 ft.-0 in. for plumb and level (including countertops); and with 1/16 in. maximum offset in flush adjoining surface, 1/8 in. maximum offsets in revealed adjoining surfaces.
- C. Scribe and cut work to fit adjoining work where necessary, and refinish cut surfaces or repair damaged finish at cuts.
- D. Install without distortion so that doors and drawers will fit openings properly and be accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.

1. Use only properly sized wood screws or other approved fasteners. *DO NOT* nail casework together or to supporting structure.

3.03 ADJUSTMENT, CLEANING, FINISHING AND PROTECTION:

- A. Repair damaged and defective casework wherever possible to eliminate defects functionally and visually; where not possible to repair properly, replace casework. Adjust joinery for uniform appearance.
- B. Clean hardware, lubricate and make final adjustments for proper operation.
- C. Clean units on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.
- D. Protection: Installer of modular casework shall advise Contractor of procedures required to protect work during remainder of construction period to ensure that work will be without damage or deterioration at time of acceptance.

END OF SECTION



SECTION 07117 - ASPHALT/POLYETHYLENE WATERPROOFING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.
- B. Coordinate work with that of other trades effecting or effected by work of this Section. Cooperate with such trades to assure the steady progress of the Work.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:
  - 1. Polyethylene sheet waterproof membranes as indicated.
- B. Related Work Specified Elsewhere:
  - 1. Perimeter/underslab insulation: SECTION 07200 - BUILDING INSULATION.
  - 2. Dampproofing: SECTION 07160.
- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Manufacturer: Obtain primary waterproofing materials of each type required from a single manufacturer, to greatest extent possible. Provide secondary materials only as recommended by manufacturer of primary materials.

- B. Installer: Firm with not less than 3 years of successful experience in installation of waterproofing sheets similar to requirements for this project and which is acceptable to or licensed by manufacturer of primary waterproofing materials.
- C. Product Data: Submit specifications, installation instructions, and general recommendations from waterproofing materials manufacturer, for types of waterproofing required. Include data substantiating that materials comply with requirements.

1.04 JOB CONDITIONS:

- A. Substrate: Proceed with work of this section only after substrate construction, openings, and penetrating work have been completed.
- B. Weather: Proceed with waterproofing and associated work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturers' recommendations and warranty requirements.

1.05 SPECIAL PROJECT WARRANTY:

- A. Provide written warranty, signed by Contractor, Installer, and Manufacturer of primary waterproofing materials, agreeing to replace/repair defective materials and workmanship, including significant leakage of water, abnormal aging or deterioration of materials, and other failures of sheet waterproofing to perform as required within warranty period. Warranty includes responsibility for removal and replacement of other work which conceals sheet waterproofing. During warranty period, repairs and replacements required because of acts of God and other events beyond Contractor's/Installer's/Manufacturer's control (and which exceed performance requirements) shall be completed by Contractor/Installer and paid for by Owner at prevailing rates.

- 1. Warranty period is 10 years after date of substantial completion.

PART 2 - PRODUCTS

2.01 ASPHALT/POLYETHYLENE SHEET WATERPROOFING:

- A. Provide self-adhering membrane of rubberized asphalt integrally bonded to polyethylene sheeting, formed into uniform flexible sheets of thickness shown, or not less than 56 mils if no thickness is shown, in widths of not less than 36 in., and complying with the following:
  - 1. Tensile Strength (ASTM D412): 250 psi min.
  - 2. Ultimate Elongation (ASTM D412): 200 percent min.
  - 3. Brittleness Temperature (ASTM D746): -25 deg. F (-32 deg. C).
  - 4. Hydrostatic Head Resistance: 75 feet min.

5. Water Absorption (ASTM D570): Not more than 0.5 percent weight gain for 48 hours of immersion at 70 Deg. f (21 Deg. c).

B. Products/Manufacturers: Subject to compliance with requirements, provide one of following:

1. Bituthene; W.R.Grace & Co.
2. Hey'Di SK 2000; Hey'Di American Corp.
3. Polyguard No. 650; Polyguard Products, Inc.
4. Plastiwrap; Progress Unlimited, Inc.

## 2.02 MISCELLANEOUS MATERIALS:

A. Adhesives: Provide types of adhesive compound and tapes recommended by waterproofing sheet manufacturer, of bonding to substrate (if required), for waterproof sealing of seams in membrane, and for waterproof sealing of joints between membrane and flashings, adjoining surfaces and projections through membrane.

B. Primers: Provide type of concrete primer recommended by manufacturer of sheet waterproofing material for applications required.

C. Coatings: Provide type of coating (if any) recommended by waterproofing sheet manufacturer, for improvement of weathering resistance on exposed areas of membrane, including areas extended as flashing (if any). Provide black coating except as otherwise indicated.

D. Flashing Materials: Except as otherwise indicated, provide types of flexible sheet material recommended by waterproofing sheet manufacturer for flashing.

E. Protection Course: Where shown, provide type recommended by waterproofing sheet manufacturer, unless another type is indicated; include adhesives recommended by manufacturer.

F. Paper Slip Sheet: 5-1b. rosin-sized building paper.

## PART 3 - EXECUTION

### 3.01 INSPECTION:

A. Installer must examine substrate and conditions under which waterproofing work is to be performed and must notify Contractor in writing of unsatisfactory conditions. Do not proceed until unsatisfactory conditions have been corrected in manner acceptable to Installer.

### 3.02 PREPARATION:

A. Prior to installation of waterproofing and associated work, meet at project site with Installer of each component of associated work, in-

## Phase II Renovations, State House

spection and testing agency representatives (if any), and installers of work requiring coordination with waterproofing work, for purpose of reviewing material selections and procedures to be followed in performing work.

- B. Apply primer to concrete and masonry surfaces at rate recommended by manufacturer of primary waterproofing materials. Prime only area which will be covered by WP membrane in same working day; reprime areas not covered by WP membrane within 24 hours.

### 3.03 INSTALLATION:

- A. Comply with manufacturer's instructions: for handling and installation of sheet waterproofing materials, except where more stringent requirements are shown or specified.
- B. Coordinate installation of waterproofing materials and associated work to provide complete system complying with combined recommendations of manufacturers and installers involved in work. Schedule installation to minimize period of exposure of sheet waterproofing materials.
- C. Extend waterproofing sheet and flashings as shown to provide complete membrane over area indicated to be waterproofed. Seal to projections through membrane and seal seams. Bond to vertical surfaces and also, where shown or recommended by manufacturer, bond to horizontal surfaces.
- D. Coat exposed areas of sheet and flashing materials. Comply with sheet manufacturer's recommendations for application and cure of coating.
- E. Install protection course of type indicated over completed membrane, complying with manufacturer's recommendations for both waterproofing sheet and protection course materials.

### 3.04 PERFORMANCE REQUIREMENTS:

- A. It is required that waterproof membranes be watertight and not deteriorate in excess of limitations published by manufacturer.
  - 1. In-place Testing: Before completed membranes on horizontal surfaces are covered by protection course or other work, test for leaks with 2 in. depth of water maintained for 24 hours. Repair any leaks revealed by examination of substructure and repeat test until no leakage is observed.

### 3.06 PROTECTION:

- A. Institute all required procedures for protection of completed membrane during installation of work over membrane and throughout remainder of construction period. Do not allow traffic of any type on unprotected membrane.

END OF SECTION

**SECTION 07160 - BITUMINOUS DAMPPROOFING**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

- 1. Cold-applied asphalt dampproofing over exterior concrete foundation walls, and certain interior walls, at locations indicated.

- B. Work Specified Elsewhere:

- 1. Waterproofing: SECTION 07117 - ASPHALT/POLYETHYLENE WATERPROOFING.
- 2. Perimeter insulation: SECTION 07200 - BUILDING INSULATION.
- 3. Cold-applied asphalt dampproofing applied to exterior surfaces of inner wythes of masonry cavity walls: SECTION 04200 - UNIT MASONRY.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 QUALITY ASSURANCE; SUBMITTALS:**

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.

- B. General: For each type of work, obtain primary materials from single manufacturer, to greatest extent possible. Provide secondary materials only as recommended by manufacturer of primary materials.

- C. Installer Qualifications: A firm which has specialized for not less than three years in installation of types of dampproofing required for project and which is acceptable to manufacturer of primary materials.



- D. Product Data: Submit manufacturer's technical product data, installation instructions, and general recommendations for each dampproofing material required. Include data substantiating that materials comply with requirements.

1.05 JOB CONDITIONS:

- A. Substrate: Proceed with dampproofing work only after substrate construction and penetrating work have been completed, and properly cured and hardened.
- B. Weather: Proceed with dampproofing work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations.
- C. Provide adequate ventilation to prevent accumulation of hazardous fumes during application of components in enclosed spaces, and maintain until coatings have thoroughly cured.

PART 2 - PRODUCTS

2.01 BITUMINOUS DAMPPROOFING MATERIALS:

- A. General: Provide bituminous dampproofing materials which comply with the following requirements, or provide other similar products which are certified in writing by manufacturer of primary dampproofing materials to be superior in performance for application indicated.
  - 1. Primers: Provide primers of type (if any) as recommended for each particular substrate material.
- B. Odor Elimination: For interior and concealed-in-wall uses, provide type of bituminous dampproofing material which is warranted by manufacturer to be substantially odor-free after drying for 24 hours under normal conditions.
- C. Cold Applied Asphalt Dampproofing: Manufacturer's standard asphalt and solvent compound, recommended for dry below-grade exterior and for above-grade interior applications, compounded to penetrate substrate and build to moisture-resistant, vapor-resistant, firm, elastic coating.
  - 1. Semi-fibrated Type: Semi-mastic compound; Fed Spec. SS-A-694.
  - 2. Non-fibrated Type: Liquid type: Fed. Spec. SS-A-694 or Fed. Spec. SS-A-701, depending upon viscosity required.
  - 2. Manufacturer: Subject to compliance with requirements, provide cold-applied asphalt products of one of the following:
    - a. Celotex Corporation.
    - b. Certainteed Corporation.

- c. Flintkote Div./Genstar Corporation.
- d. J. & P. Petroleum Products, Inc.
- e. Karnak Chemical Corporation.
- e. Koppers Company, Inc.
- f. Sonneborn Bldg. Products Div./Contech, Inc.
- g. Tremco Company.

2.02 MISCELLANEOUS MATERIALS:

- A. Bituminous Grout: ASTM D 147.
- B. Plastic Cement: Fed. Spec. SS-C-153, asphalt base.

PART 3 - EXECUTION

3.01 INSPECTION:

- A. Examine substrate and conditions under which dampproofing work is to be performed and must notify Contractor in writing of unsatisfactory conditions. Do not proceed with work until satisfactory conditions have been corrected in manner acceptable to Installer.

3.02 PREPARATION OF SUBSTRATE:

- A. Clean substrate of projections and substances detrimental to work; comply with recommendations of prime materials manufacturer.
- B. Install cant strips and similar accessories as shown and as recommended by prime materials manufacturer even though not indicated on Drawings.
- C. Fill voids, seal joints, and apply bond breakers (if any) as recommended by prime materials manufacturer, with particular attention at construction joints.
- D. Install separate flashings and corner protection stripping as recommended by prime materials manufacturer, where indicated to precede application of dampproofing. Comply with details shown and manufacturer's recommendations. Give particular attention to requirements at building expansion joints, if any.
- E. Prime substrate if and as recommended by prime materials manufacturer.
- F. Protection of Other Work: Do not allow liquid and mastic compounds to enter drains and conductors. Prevent spillage and migration onto other surfaces of work, by masking or otherwise protecting adjoining work.

3.03 INSTALLATION:

- A. General: Comply with manufacturer's instructions, except where more stringent requirements are shown or specified, and except where project conditions require extra precautions or provisions to ensure satisfactory performance of work.
  - 4. Unless otherwise indicated extend vertical dampproofing down walls from finished grade line to top of footing, extend over top of footing and turn down minimum of 6 in. over outside face of footing. Extend 12 in. onto intersecting walls, and footings but do not extend onto surfaces which will be exposed to view when project is completed.
    - b. Coordinate work with that of perimeter insulation.
- C. Cold Bitumen Application:
  - 1. Coordinate work with that of concrete, masonry and other related work. Take special precautions not to stain facebrick, exposed concrete masonry units or other finished work.
  - 2. For rough concrete surfaces not receptive to liquid applied dampproofing, apply coat of cold, semi-fibrated semi-mastic dampproofing material, by brushing or spraying at rate of 5.0 gal. per 200 sq. ft., to produce uniform dry film thickness of not less than 20 mils.
  - 3. For smooth concrete surfaces only, Contractor may apply coat of cold, liquid dampproofing to exterior surface of inner wythe of masonry cavity walls by brushing or spraying at rate of 1.25 to 0 gal. per 100 sq. ft., depending upon substrate as required to produce a uniform dry film of not less than 10 mils.
  - 4. Repeat application specified above, after allowing 24 hours for curing of first coat. Double thickness of second coat at locations where first application has failed to produce a smooth, lustrous, impervious coat.

END OF SECTION

SECTION 07176 - ACRYLIC EMULSION EXTERIOR MASONRY COATING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

- A. The general provisions of the contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this Section.

1.02 DESCRIPTION OF WORK:

- A. Extent: This Section covers the furnishing of all labor, materials, services, and equipment required in conjunction with or properly incidental to the application of a colored acrylic emulsion finish to exterior exposed surfaces of masonry as indicated.
  - 1. Provide over entirety of all new exterior masonry and to existing exterior masonry to extent indicated.
  - 2. Include cleaning and preparation of existing masonry to receive finish material.
- B. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- C. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 SUBMITTALS; QUALITY ASSURANCE:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Product Data: Submit manufacturer's literature, specification, and application instructions of water repellent materials. Architect's approval.
- C. Sample Applications: Apply small test application, not less than 100 square feet, to inconspicuous area as approved by Architect.
  - 1. Manufacturer's representative shall inspect and approve sample installations, and remaining substrate to be covered, and approve same in writing before further work continues.

1.05 SPECIAL PROJECT WARRANTY:

- A. In addition to inspecting sample panels, sample installation on the permanent work and substrate to be covered, manufacturer's representative shall inspect the work of this Section during and following completion of such work.
- B. In addition to the general warranty for all work under the Contract, manufacture shall issue a special warranty covering against defects in material and workmanship, which guarantee shall acknowledge the required inspections and approvals by representative of manufacturer.
  - 1. Guarantee Period: Two (2) years from date of completion of the masonry coating installation, but not less than one (1) year from date of Substantial Completion of Project.

1.06 PRODUCT DELIVERY:

- A. Deliver materials to the job site in original sealed containers, clearly marked with manufacturer's name, brand name, and type of material.

1.07 JOB CONDITIONS:

- A. Environmental Requirements:
  - 1. Do not proceed with application, if the substrate material contains frozen water.
  - 2. Do not apply water repellent in rainy conditions.
  - 3. Do not apply materials in high or gusty winds.
- B. Protection:
  - 1. Protect shrubs, metal and wood trim, glass, and other building hardware during application.
  - 2. Do not permit material to drift onto surrounding properties.

PART 2 - PRODUCTS

2.01 EXTERIOR CMU COATING MATERIAL:

- A. Coating: Solvent type acrylic coating, MODAC as made by American Seal Division, Monsey Products Co., Kimberton, PA 19442; or approved equal.
- B. Filler: Mo-Fil, as made by manufacturer of coating material.
- C. Colors: Three colors will be required, to match samples as furnished by Architect.
  - 1. Architect will not be limited to manufacturer's standard color selection.

2. Include all colors in sample panel.

PART 3 - EXECUTION

- A. Preparation: Clean all surfaces to receive finish of all loose particles of dust, dirt, oil, wax, detergent and soap, loose or excess mortar, or any other foreign matter. All surfaces must be completely dry and clean before application of water repellent.
- B. Application: Apply by roller in strict compliance with manufacturer's recommendations and following:
  1. One coat filler, applied at rate not to exceed 60 sq. ft. per gallon.
  2. One coat finish material, applied at rate not to exceed 90 sq. ft. per gallon.
  3. Mask and otherwise protect so as not to apply to facebrick or other surfaces.
- D. Cleanup: At completion, remove from the job site all excess material, debris, and rubbish resultant from this work.

END OF SECTION



**SECTION 07200 - BUILDING INSULATION**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

- 1. Batt insulation at exterior walls as indicated.
- 2. Rigid polystyrene insulation below grade as indicated (perimeter insulation).
- 3. Separately applied vapor barrier at batt insulation as indicated.

- B. Related Work Specified Elsewhere:

- 1. Acoustical insulation within metal framed gypsum drywall construction: SECTION 09250 - GYPSUM DRYWALL, LATH AND PLASTER.
- 2. Pitched roof deck insulation: SECTION 07600 - METAL ROOFING AND FLASHING.

- C. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 QUALITY ASSURANCE; SUBMITTALS:**

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.

- B. Thermal: Provide thicknesses of insulation as indicated or, where not indicated, provide combination of k-value and thickness as required to yield the "R" value indicated.



- C. Fire and Insurance Ratings: Provide insulations complying with governing regulations for applications indicated.
- D. Fire Hazard Control: Do not deliver plastic insulations to project site prior to time of installation; protect against ignition at all times. Conceal with other work as indicated immediately upon installation; do not allow plastic insulations to remain exposed.

## PART 2 - PRODUCTS

### 2.01 INSULATION MATERIALS

- A. Glass/Mineral Fiber Blanket/Batt Insulation: Inorganic non-asbestos fibers formed with binders into resilient blankets or batts complying with HH-I-521, k-value of 0.27, semi-rigid type where required for self support.
  - 1. Unfaced Units: Provide unfaced units, Type I, except for locations where separately applied vapor barrier is unfeasible.
  - 2. Foil Faced Units: Provide one face including integral nailing flanges with 0.5 perm rated reflective aluminum foil facing; other face (if any) minimum 5.0 perm rated.
- B. Extruded Polystyrene Board Insulation: Rigid closed-cell extruded expanded polystyrene complying with FS HH-I-524 Type IV, 20 psi compressive strength, aged k-value of 0.20, 1.1 perm-inch max. vapor rating, 0.3 percent max. water absorption.
  - 1. Provide Dow-Corning Styrofoam SM or TG; or approved equal. Provide TG type where long edges are butted.

### 2.02 AUXILIARY INSULATING MATERIALS:

- A. Polyethylene Vapor Barrier: 4-mil polyethylene film, with laboratory-tested vapor transmission rating of 0.2 perms, natural color.
- B. Adhesive for Bonding Insulation: Type recommended by insulation manufacturer, and complying with fire-resistance requirements.
- C. Mechanical Anchors: Type and size shown or, if not shown, as recommended by insulation manufacturer for type of application and condition of substrate.
- D. Sealing Tape: Duct tape or other approved material, having a perm rating of 1.0 or less.

## PART 3 - EXECUTION

### 3.01 INSTALLATION, GENERAL:

- A. Comply with manufacturer's instructions for particular conditions of installation in each case.

- B. Extend insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
  - C. Provide adequate anchorage or support for insulating materials as required, if no specific method is indicated, bond units to substrate with approved adhesive or use mechanical anchorage to provide permanent placement and support of units.
  - D. Install installation so as to completely insulate the intended space, free of gaps, voids, or breaks. Cut, fit, and install so as to press tightly around entire perimeter of pipes, conduits, ductwork, and other items penetrating the insulation. Insulate interior side of double studs, and all concealed framing spaces.
  - E. Stuff loose mineral fiber into miscellaneous cavity spaces as required, compressed to approximately 40 percent of normal volume.
  - F. Do not obstruct ventilation spaces, except for firestopping.
- 3.02 PERIMETER AND UNDER-SLAB INSULATION:
- A. On vertical surfaces, set units in adhesive applied in accordance with manufacturer's instructions. Use type adhesive recommended by manufacturer of insulation.
  - B. Unless otherwise indicated extend insulation from bottom of floor slab to top of footing.
- 3.03 BLANKET/BATT INSULATION:
- A. Material Types:
    - 1. Type I, unfaced (only) for walls.
    - 2. For Contractor's convenience only, Type II (kraft faced) or Type III (foil faced) materials may be used for walls provided facing is punctured so as to avoid double vapor barrier.
    - 2. Type III, foil faced (only) for soffits and other locations where application of separate vapor barrier is not feasible (with prior notification to and approval by Architect).
  - B. Supports: At soffits and other areas where required, provide approved supports at not over 16 in. on centers.
  - C. Faced Insulation: Use only Type III foil faced material. Install at soffits with vapor barrier facing up; in other locations (with prior approval of Architect) install with vapor barrier facing toward warm side. Seal all edges, breaks or gaps in vapor barrier facing with duct tape or approved equivalent.

3.04 SEPARATE VAPOR BARRIER:

- A. Provide apply separate vapor barrier material over interior surfaces of batt insulation (to warm side); after insulation is installed and approved.
  - 1. *NOTE: Notify Architect and allow opportunity for observation of insulation prior to installation of vapor barrier.*
  - 2. Omit at soffits, and - subject to prior approval by Architect - at other locations where use of separate vapor barrier may prove impractical. Substitute foil-faced (only) batt insulation.
- B. If faced insulating materials have been used, puncture facing at approximately 12 in. on centers each way prior to applying separate vapor barrier.
- C. Use material of width to span room height.
- D. Lap all vertical edges 4 in. minimum, with all laps occurring over supports.
  - 1. Seal all joints with tape.

END OF SECTION

**SECTION 07610 - ROOFING AND FLASHING**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:
  - 1. Metal roof and associated metal flashing and accessories.
  - 2. Metal edge, cap and base flashings.
  - 3. Reglets.
  - 4. Roof insulation over metal and roof decks, including fasteners and accessories.
  - 5. Wood sleepers and plywood sheathing for metal roofing and insulation system.
  - 6. Waterproofing membrane (ice dam) over plywood sheathing at eave edges and valleys.
  - 7. Underlayment paper over plywood sheathing.
  - 8. Caulking and sealant in conjunction with roofing metal roofing, siding and flashing work.
  - 9. Renovations to existing built-up roofing as indicated and as required to accommodate new work.
  - 10. All other metal roofing and flashing work as indicated on Drawings and/or specified herein.
- B. Related Work Specified Elsewhere:
  - 1. Wood nailers, other rough carpentry not specified herein: SECTION 06100 - ROUGH CARPENTRY and SECTION 06130 - WOOD DECKING.
  - 2. Composite flashing occurring in masonry walls, not part of roof flashing system: SECTION 04200 - UNIT MASONRY.
  - 3. Sheet metal work, other than flashings, in conjunction with heating and ventilating work: DIVISION 15.
  - 4. Painting of existing gravel stop: SECTION 0990 - PAINTING.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. Intent: It is the intent of the "Quality Assurance" provisions, and all other provisions of this SECTION 07610 to require the Installer to provide metal roofing, flashing and related work in full compliance with the requirements of the Contract Documents, unless the Installer has received prior approval by the Architect for each and every deviation therefrom. This applies in particular, but is not limited to, prior approval of substitute materials and/or installation methods, and Architect being given ample notice and opportunity to observe and approve substrate surfaces before being covered. The Architect will give full consideration to any reasonable alternatives proposed by the Installer, BUT ALL MUST RECEIVE PRIOR WRITTEN APPROVAL FROM ARCHITECT.
- B. Installer Qualifications: Subcontract work of this Section to a single Subcontractor (hereinafter called "Installer") who must be a recognized metal flashing contractor, skilled and experienced in the type of roofing and associated work required, equipped to provide the materials and workmanship required in accordance with this Section and recognized standards.
  - 1. Minimum Experience: Not less than 5 years satisfactory experience with projects of magnitude equivalent to that required for this Project.
  - 2. Sub-subcontracting: Portions of the work of this Section may be further sub-subcontracted subject to approval by the Owner.
  - 3. Installer's Field Supervision: Installer must maintain full-time supervisor/foreman on jobsite during times that metal roofing work is in progress. Supervisor must have minimum of 5 years experience in work similar to nature and scope of this Project.
- C. Test Reports: Submit certified test reports for all testing requirements.
- D. Reference Standards: Except as indicated otherwise, metal roofing and related work shall comply with following:

1. Recommendations contained in the National Roofing Contractor's Association (NRCA) Roofing Manual.
  2. "Copper and Common Sense", published by Copper Development Board. (applicable to sheet metal materials other than copper).
  3. SMACNA Handbook.
  4. NOTE: Obtain and maintain copy of above documents at jobsite at all times while work of this Section is in progress.
- E. Product Data: Submit manufacturer's technical product data, installation instructions and recommendations for each type of roofing product required. Include data substantiating that materials comply with requirements.
- F. Shop Drawings: Submit shop drawings for all work.
1. Shop drawing requirements will NOT be waived. Work installed without prior approval of shop drawings is subject to rejection by Architect without further cause.
  2. Show all conditions including substrates and other related work that will affect the metal flashing work. Show all details at a scale of not less than 3 in. equals one foot.

1.04 WARRANTIES:

- A. Special Project Warranty: Submit 2 executed copies of standard 2- year "Roofing Guarantee" covering work of this Section including metal flashing, roof insulation, and roof accessories, signed and countersigned by Installer (Roofer) and Contractor; in standard form of the New England Approved Roofer's Association modified as follows:
1. Warranty/Guarantee period is to be for two years commencing from date building (or portion thereof) is accepted by Owner for beneficial use and occupancy, but not longer than three years from date roofing and associated work is completed and accepted by the Contractor.
  2. Warranty/Guarantee to cover roofing and all associated work covered by the roofing subcontract as specified.
  3. Properly made emergency repairs, and other properly made repairs or alterations made by the Owner after 48 hours notice to the Installer without response by the Installer, not to void or nullify any terms of the warranty/guarantee.
  4. Conditions which affect only one portion of the roofing and associated work, to alter the terms of the warranty/guarantee for the affected area only, and may not be used to nullify or void the entire warranty/guarantee.
  5. Sub-subcontractor's Warranty/Guarantee Endorsement: If any portion of the metal roofing and flashing and associated work is sub-

subcontracted, the applicable sub-subcontractors shall countersign the warranty/guarantee.

1.05 ROOFING CONFERENCE:

- A. Attend and comply with all applicable requirements of Pre-application roofing conference as specified under SECTION 07530.

1.06 JOB CONDITIONS:

- A. Scheduling: Do not proceed with installation until necessary preceding work is completed and approved.
- B. Examination of Substrate and Conditions: Refer to PART 3 of this Section.
- C. Weather Conditions: Proceed with work only when weather conditions are in compliance with manufacturers' recommended limitations, when conditions will permit the work to proceed in accordance with requirements of the manufacturers' recommendations, and within the limits established at the pre-roofing conference.
  - 1. Coordinate removal of temporary roof protection so as to prevent exposure of wood decking to the elements.
  - 2. Apply roof insulation and related materials only in dry and non-threatening weather.
  - 3. Do not apply any materials containing or to substrates containing any moisture in the form of ice, snow, frost or surface water, or other foreign materials.
- D. Coordination: Coordinate metal roofing and associated work carefully with that of all other trades. In particular:
  - 1. Arrange to cover insulation immediately after installation, and install roofing and flashing so as to provide positive wash action of rainwater.
  - 2. Sequence work so as to provide wash action over and under other work as required for weather protection of structure.

1.07 PRODUCT HANDLING:

- A. Store and handle products in manner to prevent damage through the elements, construction activities or otherwise. Comply with recommendations of the manufacturers of each type of product.
- B. If stored outdoors, provide adequate covering. Use breathable type covering, such as canvas, to avoid build-up of condensation unless otherwise recommended by the manufacturer. Store all materials off the ground or roof, on pallets.
- C. Store materials on structure in manner to avoid significant or permanent deflection of deck.

PART 2 - PRODUCTS

2.01 INSULATION AND ACCESSORY MATERIALS:

- A. Thermal Characteristics: Thicknesses shown are for thermal conductivity (k-value at 75 deg. F or 24 deg. C) specified for each material. Provide in thicknesses shown, using insulation with minimum R-values as specified.
  - 1. Substituting greater thicknesses for materials of lower insulating efficiency **will not** be acceptable.
  - 2. R-Value:
    - a. Insulation Material Only: R-20 @ 75 deg. F., unless otherwise indicated on Drawings.
    - b. Total Roof Assembly: R-30, unless otherwise indicated on Drawings.
- B. Insulation: Isocyanurate insulation complying with Fed Spec HH I 1972 and with flame/fuel/smoke classification of 25/0-25/0-75 in compliance with ASTM E 84.
  - 3. Product: Subject to compliance with requirements, provide one of following:
    - a. Celotex Thermax;
    - b. Koppers Rx; or
    - c. Approved equal.
- C. Plywood Sheathing: APA-CDX Sheathing, 1/2 inch minimum thickness unless otherwise shown.
- D. Wood Sleepers: Comply with requirements of SECTION 06100 - ROUGH CARPENTRY, including requirements for pressure-treatment.
  - 1. Unless otherwise indicated, provide pressure-treated wood for sleepers and other wood members within 4 feet of eave edges.
  - 2. Comply with requirements of SECTION 06100 for fastening of nailers to wood and metal decking. Note that only screw-type fasteners are acceptable for either substrate material.
- B. Underlayment Paper: No. 15 asphalt saturated felt.
  - 1. Optional Material: DuPont Tyvek.



- C. Waterproofing Membrane (Ice Dam): W.R. Grace Bituthene; or approved equal.

2.02 LEAD-COATED COPPER MATERIALS:

- A. General: Provide lead-coated copper flashing and related work.
  - 1. Provide all metal flashings for typical conditions shown on the Drawings and in all locations where the use of metal flashing may be reasonably inferred as necessary to make the work of this Section complete in its intent, so as to provide leakproof conditions.
  - 2. Provide all accessories or other items essential to the completeness of the sheet metal installation, though not specifically shown or specified. All such items, unless otherwise shown or specified, shall be of the same kind of material as the item to which applied.
- B. Copper: ASTM B 152, rolled from copper complying with ASTM B 5 and manufactured in USA.
  - 1. Weight: Except as specifically indicated otherwise, provide copper weighing 16 oz per sq ft before coating.
    - a. Fabricate items of not lighter than weights recommended in reference documents, but not lighter than 16 ounce unless otherwise specified herein or shown on Drawings.
  - 2. Lead-coating: Except as specifically shown or specified as plain copper, provide only lead-coated copper complying with ASTM B 101, Class A standard.
- C. Reglets: Provide lead-coated units as indicated and as manufactured by Frye Reglet Corp.; or approved equal.
  - 1. At Masonry Walls: Frye Type MA Masonry Reglet, with matching bottom (counter) flashing unit.
- D. Miscellaneous Materials:
  - 1. Solder: ASTM B 32, all new materials.
    - a. For Lead Coated Copper: 50 percent pig lead and 50 percent block tin.
    - b. For Plain Copper: 60 percent pig lead and 40 percent block tin.
  - 2. Flux: Muriatic acid killed with zinc, or an approved brand of soldering paste. Wash flux off thoroughly after soldering.
  - 3. Screws, Bolts, Nails and Other Accessories: As recommended by sheet metal manufacturer, of alloys, types and sizes as approved by Architect.
    - a. For Copper: Copper, bronze or brass; not lighter than No. 12 stubbs gauge.

- b. Nails: Deformed shank with large flat heads, of sufficient length to penetrate at least 7/8 in. into backing material.
- c. Expansion Shields: Lead or other approved alloy.
- d. Wood Plugs: Not acceptable.

2.03 BUILT-UP ROOFING MATERIALS:

- A. Provide materials as indicated, and as required for compatibility with existing bituminous roofing materials to remain.
- B. Use only cool-tar pitch bituminous materials.

PART 3 - EXECUTION

3.01 COORDINATION:

- A. Comply with requirements of SECTION 07530 covering coordination and protection of work.

3.02 PREPARATION AND INSPECTION OF SUBSTRATE:

- A. Temporary Roof Protection: Remove temporary roof protection before installing any metal roofing or accessory materials.
- B. Installer must examine substrate surfaces to receive metal roofing systems and associated work. Do not proceed until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
- C. Wood Deck: Verify that deck is dry, level, securely fastened and with all fasteners recessed or driven flush.

3.03 INSTALLATION OF SLEEPERS/NAILERS/SHEATHING/INSULATION SYSTEM:

- A. Coordinate installation insulation with that of the metal roofing.
- B. Install sleepers/nailers/insulation system as indicated.
  - 1. Use only screw-type fasteners or spiral or ring shank nails for securing wood or plywood to each other.
  - 2. Secure alternating sleepers and nailers as indicated, with insulation placed between with snug but not excessively forced fit at edges and ends. Provide not lighter than 12-penny fasteners at not over 12 inches on centers.
  - 3. **NOTE:** Notify Architect and allow inspection of insulation system before applying sheathing.

- D. Secure plywood sheathing at right angles to nailers, using spiral or annular ring 8-penny nails at not over 6 inches along edges and 8 inches on centers in field.
  - 1. **NOTE:** Do not install until Architect has been notified and given opportunity to inspect insulation system.

3.04 INSTALLATION OF UNDERLAYMENT MATERIALS:

- A. Ice Dam: Provide ice dam material to minimum of 24 inches from exterior wall line onto roofs of the Town Hall building. Place over drip edge material. Comply with recommendations of ice dam material manufacturer.
  - 1. Provide also for minimum of 24 inches at valleys and below metal base flashings at both vertical and horizontal surfaces.
- B. Building Paper: Apply building paper over plywood sheathing, shingle fashion working from bottom levels up. Overlap top edge of ice dam material a minimum of 4 inches. Provide minimum of 4 inch lap at sides and ends, and seal seams with duct tape or approved equivalent. Secure vapor barrier so as to provide temporary weather protection until metal roofing is installed, but schedule work so that metal roofing is applied within 48 hours.
  - 1. If it appears that metal roofing cannot be installed within 48 hours, or prior to threatened stormy weather, secure building paper with wood cleats spaced approximately 24 inches on centers and set slightly from parallel, and with approximately 2 inches between ends to allow rain to run through.

3.05 WORKMANSHIP FOR COPPER WORK:

- A. Comply with "Copper and Common Sense" and other reference standards.
- B. Provide sheet metal work adequate to provide water and weathertight work. Provide sharp and true lines, arises, and angles with plane surfaces free from waves and buckles. Avoid joints and seams in plane surfaces as far as possible.
- C. Clean all exposed metal surfaces as each section of the work is completed.
- D. Except as otherwise indicated or specified, provide metal sheets in not over 13 ft. lengths. Provide sheet metal seams, unless otherwise indicated, with 3 in. wide sheet metal backing plates and cover plates at all butt joints of straight run flashings. Indicate spacings, locations and fully detail proposed slip joints on shop drawings. Provide other expansion joints as required or shown.
- E. Hem exposed edges 1/2 in. to provide stiffness. Expose no nails in face of finished work.
- F. Install flashing in such a manner as will prevent galvanic action with other dissimilar adjacent metals by priming with bituminous paint. Set copper only after buttering bottom with roofing cement.

- G. Where wood blocking, concrete, and the like are to be covered with sheet metal apply (1) ply of underlayment paper material under copper.
  - H. Where soldering is required, tin over the full contact area.
    - 1. Avoid soldering flux on plain copper. Perform soldering slowly, with well-heated coppers, thoroughly heating the seams and completely filling them with solder. Neatly melt off excess solder.
- 3.06 COPPER FLASHING:
- A. Follow written installation requirements of metal materials manufacturer in addition to applicable sheet metal workmanship references listed above and final shop drawings.
  - B. Extend cap flashing, where indicated or required, down at least 4 in. over base flashing, and be formed to shapes detailed. Form spring-action bend in face and turn up bottom edge at least 1/2 in. along concealed face. Use slip seams at each end of 8 ft lengths as specified above.
  - C. Nailing at flashings shall be in double rows using strong-hold nails 3 in. on centers.
- 3.07 COPPER FLAT SEAM ROOFING:
- A. Provide 1/2 inch plywood sheathing over sleeper system specified under paragraph INSTALLATION OF INSULATION.
    - 1. Secure sheathing to sleepers to comply with requirements specified under SECTION 06100 - ROUGH CARPENTRY, with fasteners spaced not less than 6 inches along edges and 12 inches on centers in field. Use only hot-dipped galvanized or high-tensile strength aluminum fasteners.
    - 2. Provide building underlayment paper over upper layer of plywood sheathing, as specified under INSTALLATION OF INSULATION. Do not provide at bottom (structural) layer of sheathing.
  - B. Fabricate of 16 ounce lead-coated copper, unless otherwise indicated.
  - C. Comply with applicable requirements of Paragraphs WORKMANSHIP FOR COPPER WORK and COPPER FLASHING.
  - D. Shop Fabrication: Make sheets up at shop into single lengths, with vertical edges projecting out at right angles, one edge at 1-1/2 in. and opposite at 1-3/4 in.
  - E. Install with no exposed fasteners wherever possible. Where absolutely essential, and subject to approval by Architect (and indicated on final shop drawings), provide fasteners with neoprene washers and matching head caps.
    - 1. Provide copper nailing cleats at not over 12 inches on centers.

2. Use only copper or bronze fasteners, trim and accessories.
3. Fold larger edges over shorter, fold both down flat over short edge.

3.09 EXISTING ROOFING:

- A. Perform renovations to existing roofing as indicated and as required to accommodate new work.

3.10 PROTECTION OF WORK:

- A. Upon completion of metal flashing/roofing work (including associated work) Installer shall advise Contractor of recommended procedures for surveillance and protection of roofing during remainder of construction period. At end of construction period, or at a time when remaining construction work will in no way affect or endanger roofing (at Contractor's option), Installer shall make a final inspection of metal roofing and flashing and prepare a written report (to Contractor with copy to Owner) describing nature and extent of deterioration of damage found in the work (including specifically but not limited to damages to metal finishes).
- B. Installer shall repair or replace (as required) deteriorated or defective work found at time of final inspection. Installer shall be engaged by Contractor to repair damages to metal roofing or flashing which occurred subsequent to roofing installation and prior to final inspection. Repair or replace the roofing and associated work to a condition free of damage and deterioration at time of Substantial Completion.

END OF SECTION

**SECTION 07900 - JOINT SEALERS**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

- 1. Sealing of joints at following locations:

- a. Exterior and interior perimeter of new doors, windows, louvers, and other items at interface with exterior masonry, except as otherwise specified.
  - b. Other joints in exterior walls indicated to receive sealant or caulking.
  - c. Joints between sidewalk or paving and new building structure, other joints in sidewalk construction indicated to receive sealant.
  - d. Perimeter of interior steel door frames in masonry.
- 2. All other caulking/sealant as indicated on Drawings and not specified elsewhere.
  - 3. NOTE: "Sealant" and "Caulking" as specified herein or indicated on Drawings are hereby defined as synonymous.

- B. Related Work Specified Elsewhere:

- 1. Joint fillers for concrete slabs and sidewalks: DIVISIONS 2 AND 3.
- 3. Sealing joints of metal flashing: SECTION 07610.
- 3. Acoustical sealant in conjunction with drywall partitions: SECTION 09250.
- 4. Pointing, including resilient pointing (sealing) of joints in tile work, including at interface of tile and other materials: SECTION 09300.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/altera-

tion/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. General Performance: Except as otherwise indicated, joint sealers are required to establish and maintain airtight and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging as indicated for each application. Failures of installed sealers to comply with this requirement will be recognized as failures of materials and workmanship.
- C. Installer: Subcontract work of this Section to specialty caulking/sealant contractor experienced in work of this type and size, approved by manufacturers of sealant materials, possessing necessary equipment and available skilled labor, and subject to approval of Architect.
- D. Manufacturer's Data: Submit for information purposes only, manufacturer's data for all materials. Indicate clearly all options and selections that apply to this Project.
- E. Samples:
  1. Submit samples of available color selections.
  2. Submit samples of exposed sealant materials for color verification purposes only, if directed.

PART 2 - GENERAL

2.01 MATERIALS, GENERAL:

- A. Colors: As selected by Architect from manufacturer's standard highest-performance colors.
  1. Colors will be selected on basis of Architect's aesthetic intent, and shall not be limited in number.
  2. Colors may vary with adjacent materials.
- B. Compatibility: Provide materials selected for compatibility with each other and with substrates in each joint system; confirm with manufacturer.

1. Coordinate with acrylic emulsion coating to be applied over exterior CMU under SECTION 07176.
  - C. General Characteristics: Provide type, grade, class, hardness and similar characteristics of material as indicated or, where not indicated, to comply with manufacturer's recommendations relative to exposures, traffic, weather conditions and other factors of the joint system for best possible overall performance. Except as otherwise indicated, joint sealers are required to permanently maintain airtight and waterproof seals, without failures in joint movement accommodation, cohesion, adhesion (where applicable), migration, staining, and other performances as specified.
  - D. Sealant Manufacturers: Subject to compliance with requirements, provide products by following; or approved equal:
    1. Dow Corning Corp.; Midland, MI
    2. General Electric Co.; Waterford, NY
    3. Rhone-Poulenc, Inc.; Monmouth Junction, NJ
    4. Tremco, Inc.; Cleveland, OH
    5. Woodmont Products, Inc.; Huntingdon Valley, PA
    6. Pecora Corp.; Harleysville, PA
    7. W.R. Meadows, Inc.; Elgin, IL
  - E. Miscellaneous Material Manufacturer: Subject to compliance with requirements, provide products by sealant manufacturers specified or following; or approved equal:
    1. Williams Products, Inc.; Troy, MI
    2. Kirkhill Rubber Co.; Brea, CA
    3. J & P Petroleum Products, Inc.; Dallas, TX
- 2.02 ELASTOMERIC SEALANTS:
- A. Multi-Component Polyurethane Sealant: ASTM C 920 Type M Class 25, or Fed. Spec. TT-S-00227E Class A; self-leveling, except nonsag where joints are not horizontal.
  - B. Silicone Sealant: Provide non-porous acid type, 1-part, nonsag; ASTM C 920 Type S Class 25, or Fed. Spec. TT-S-001543, Class A; recommended by manufacturer for exterior use where one or both surfaces are porous.
    1. Porous-Bond Type Silicone Sealant: Nonacid type; 1-part, nonsag; ASTM C 920 Type S Class 25, or Fed. Spec. TT-S-001543, Class A; recommended by manufacturer for exterior use where one or both surfaces are porous.



2.03 NON-ELASTOMERIC SEALANTS:

- A. Single-Component Acrylic Sealant: ASTM C 920 Type S Class 12.5 Grade NS or Fed. Spec. TT-S-00230 Class B Type Non-sag; solvent based, solids 95% acrylic.
- B. Acrylic-Emulsion Sealant: Emulsion-type polymer of acrylic or acrylic-and-latex, permanently flexible, non-staining, non-bleeding.
- C. Butyl Rubber Sealant: Fed. Spec. TT-S-001657, 75% minimum solids.
- D. Preformed Butyl Rubber Sealant: Vulcanized butyl rubber or butyl/polyisobutylene, plus inert pigment, 95% solids, non-sag, 24-hour tack-free, paintable, non-staining, coiled with release paper.
- E. Polybutene Mastic Sealant: Non-drying, non-skinning, non-hardening, low-viscosity mastic, recommended by manufacturer for shear-type movement in small joints, either bulk or preformed ribbon on release paper.
- F. Polyisobutylene Mastic Sealant: Non-drying, non-skinning, non-hardening, non-migrating, heavy-bodies mastic, recommended by manufacturer for shear-type movement in large joints, either bulk or preformed ribbon on release paper.
- G. Oil or Resin Calking Compound: Not permitted.
- H. Expanding Foam Sealant: Will-Seal 150B (Black) or 150G (Gray) as selected by Architect, as manufactured by Will-Seal Construction Foams, Troy, MI 48084; or approved equal.

2.04 MISCELLANEOUS MATERIALS:

- A. Expanded Polyethylene Joint Filler: Flexible, closed-cell, 10 psi compression for 25% deflection, except higher if needed for installation forces, 0.1-lbs. per sq. ft. surface water absorption.
- B. Sealant Backer Rod: Non-absorptive closed-cell (or jacketed open cell) compressible/flexible plastic or rubber rod stock which is compatible with sealant (polyethylene, butyl, neoprene, polyurethane, PVC).
- C. Oakum Joint Filler: Not permitted.
- D. Bond Breaker Tape: Polyethylene or other plastic tape which will not bond to sealant, self-adhesive.

PART 3 - EXECUTION

3.01 SEALANT SCHEDULE:

- A. General: Unless otherwise indicated, provide sealant systems as follows:

1. Exterior Joints:
    - a. Backer rod.
    - b. Bond breaker as required.
    - c. Multi-component urethane sealant, or single-component silicone sealant; use non-acid porous bond type where either surface is porous material.
  2. Setting of Thresholds: Preformed butyl rubber sealant, polybutene mastic sealant, or polyisobutylene mastic sealant, at Installer's option.
  3. Interior Sealant (Vertical Joints): As specified for exterior joints except single-component acrylic or acrylic emulsion may be used at option of Contractor.
  4. Joints Subject to Foot Traffic: Joint filler specified in SECTION 03300. Multi-component polyurethane sealant (self-leveling type).
  5. Expansion and Deflection Joint Sealant: Provide material not less than twice joint width, and as recommended by sealant manufacturer.
- B. Additional Requirements: Foregoing schedule is not intended to be all inclusive. Provide cleaners, primers, bond-breakers, and other items as specified and/or as recommended by the sealant manufacturer for the application intended. Where sealant systems are required that are not scheduled, provide systems similar to those scheduled for similar or adjacent locations.
- 3.02 JOINT PREPARATION:
- A. Clean joint surfaces immediately before installation of gaskets, sealants or calking compounds. Remove dirt, insecure coatings, moisture and other substances which could interfere with seal of gasket or bond of sealant or calking compound.
  - B. Do not proceed with installation of sealant over joint surfaces which have been painted, lacquered, waterproofed or treated with water repellent or other treatment or coating unless manufacturer of sealant approves use of material under such conditions.
  - C. Comply with all recommendations of sealant manufacturer for joint preparation.
- 3.03 INSTALLATION:
- A. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified.
  - B. Set joint filler units at depth or position in joint as indicated to coordinate with other work, including installation of bond breakers, backer rods and sealants. Do not leave voids or gaps between ends of joint filler units.

## Phase II Renovations, State House

1. Unless otherwise indicated, provide joint depth not greater than width of joint except in no case less than 1/4 in. or greater than 1/2 in.
- C. Install sealant backer rod for liquid-applied sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for application indicated.
    1. Provide bond breaker tape if backer rod or joint filler material is not proven to be compatible on non-bondable to the liquid sealant material.
  - D. Install expanding foam sealant as recommended by manufacturer. Set face flush with joint edge unless otherwise indicated.
  - E. Employ only proven installation techniques, which will ensure that sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces equally on opposite sides.
  - F. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.
  - G. Provide finished application that is perfectly smooth, without sags, smears or other defects.
- 3.05 CURE AND PROTECTION:
- A. Cure-sealants and calking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Advise Contractor of procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at time of substantial completion. Cure and protect sealants in a manner which will minimize increases in modulus of elasticity and other accelerated aging effects. Replace or restore sealants which are damaged or deteriorated during construction period.

END OF SECTION

SECTION 08100 - STEEL DOOR FRAMES

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

- 1. Pressed steel frames for doors, including frames for wood doors.

- B. Install Only: Install following items, to be furnished under other Sections:

- 1. Finish hardware for metal doors and frames: SECTION - 08700.

- C. Related Work Specified Elsewhere:

- 1. Wood doors: SECTION 06410 - ARCHITECTURAL WOODWORK (STILE AND RAIL DOORS) and SECTION 08210 - SOLID CORE FLUSH DOORS.

- 2. Glass and glazing: SECTION 08800 - GLASS AND GLAZING.

- 3. Finish painting: SECTION 09900.

- D. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- E. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by the Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE AND SUBMITTALS.

- B. Reference Standards: Following references apply to this Project:
1. NFPA 80, Standard for Fire Doors and Windows.
  2. NFPA 101, Life Safety Code.
  3. SDI 101, Steel Door Institute.
  4. All applicable Life Safety and Building Codes.
- C. Coordination: Coordinate work of this SECTION with that of all other related trades, in particular with that of wood doors and finish hardware, and finish floor installation to assure proper clearance at door bottoms.
- 1. NOTE: General Contractor shall make submittals for wood and metal doors, metal frames and finish hardware simultaneously, and only after proper coordination of all items by Contractor.*
- D. Certificates of Compliance: Submit certificates from authorized officer of door/frame manufacturing firm indicating that all requirements of Specifications are complied with.
- E. Product Data: Submit manufacturer's product data for all items, including fasteners and other accessories.
- F. Shop Drawings: With manufacturer's standard details and specifications for steel doors and frames, submit shop drawings showing application to project, as required.
- G. Fire-Rated Assemblies: Provide fire-rated doors investigated and tested as fire door assemblies, complete with type of hardware to be used. Identify each door with recognized testing laboratory labels, indicating applicable fire rating of steel doors. Construct and install assemblies to comply with NFPA Standard No. 80, and as herein specified.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURER:

- A. Provide, subject to compliance with requirements by one of the following; or approved equal:
1. Amweld Bldg, Products Div.
  2. Ceco Corp.
  3. Curries Mfg. Div.
  4. Fenestra
  5. Mesker Ind., Inc.
  6. Republic Builders Prod. Corp.

7. Steelcraft Mfg. Co.

2.02 FIRE-RATED ASSEMBLIES:

- A. Provide units that display appropriate UL labels for fire-rating indicated.

2.03 MATERIALS:

- A. Steel Doors and Frames; hot-rolled, pickled and oiled per ASTM A 569 and A 568; cold-rolled per ASTM A 366 and A 568.

- 1. Galvanized sheets, ASTM A 526 with ASTM A 525, G 60 zinc coating, mill phosphatized.

- B. Anchors and Accessories: Manufacturer's standard units. Use galvanized items for units built into exterior walls, complying with ASTM A 153.

2.04 FABRICATION, GENERAL:

- A. Fabricate units to be rigid, neat in appearance, and free from defects, warp or buckle. Weld exposed joints continuously, grind, dress, and make smooth, flush and invisible.

- B. Prepare steel doors and frames to receive mortised and concealed finish hardware, including cutouts, reinforcing, drilling and tapping, complying with ANSI A 115 "Specifications for Door and Frame Preparation for Hardware".

- 1. Reinforce units to receive surface-applied finish hardware to be field applied.

- 2. Locate finish hardware as indicated or, if not indicated, per DHI "Recommended Locations for Builder's Hardware".

- 3. Reinforce all doors and frames to accommodate door closers, whether closers are scheduled or not.

- C. Shop paint exposed surfaces of doors and frame units, including galvanized surfaces, using manufacturer's standard baked-on rust-inhibitive primer.

- D. Galvanized Construction: Fabricate exterior doors, panels, and frames from galvanized sheet steel. Close top and bottom edges of exterior doors as integral part of door construction or by addition of inverted steel channels.

- E. Glazing Provisions: Provide manufacturer's standard moldings to accommodate glazing as indicated, with removable portions on secured side of door opening.

2.05 FABRICATION, DOOR FRAMES:

- A. Comply with SDI-100, of the Grades and Models indicated, for materials quality, metal gages, and construction details; not lighter than following gauges:
  - 1. Interior Door Frames: 16-gage.
  - 2. Exterior Door Frames: 14 gage.
- B. Provide standard hollow metal frames for doors, transoms, sidelights, borrowed lights, and other openings as indicated.
  - 1. Mitered frames for field assemble (KD) will be acceptable for drywall and existing walls/partitions only; provide only welded corner construction with temporary spreaders elsewhere.
    - a. Frames may be welded at factory or at shop of frame supplier.
- C. Prepare frames to receive 3 silencers on strike jambs of single-swing frames and 2 on heads of double-swing frames.
- D. Provide 26 ga. steel plaster guards or mortar boxes, welded to frame, at back of hardware cutouts where installed in concrete, masonry or plaster openings.
- E. Protect inside faces of frames in exterior walls, and in interior plaster or masonry wall construction which are placed with anti-freeze additives, using high-build fibered asphalt emulsion coating.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Install hollow-metal units in accordance with manufacturer's instructions and final shop drawings (if any). Fit doors to frames and floors with clearances specified in SDI-100.
  - 1. Install fire-rated units in accordance with NFPA Std. No. 80.
- B. Except at in-place masonry construction, set frames prior to construction of walls or partitions. Secure temporarily with adequate supports and centering.
  - 1. In masonry construction, locate 3 wall anchors per jamb at hinge and strike levels.
  - 2. In metal stud partitions, install at least 3 wall anchors per jamb at hinge and strike levels. In closed steel stud partitions, attach wall anchors to studs with tapping screws. In open steel stud partitions, place studs in wall anchor notches and wire tie.

- C. At in-place concrete or masonry construction, set frames and secure to adjacent construction with machine screws and masonry anchorage devices; not less than three devices per jamb.

3.02 ADJUST AND CLEAN:

- A. Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.
- B. Immediately prior to final inspection, remove protective plastic wrappings from prefinished doors.
- C. Final Adjustments: Check and readjust operating finish hardware items, leaving steel doors and/or frames undamaged and in complete and proper operating condition.

END OF SECTION





SECTION 08210 - FLUSH SOLID CORE WOOD DOORS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

1. Solid core interior flush wood doors with veneer faces. (Press Corps Facility).
2. Special services included under this Section:
  - a. Fabricating doors to net size at factory or shop.
  - b. Cutting/fitting existing doors to receive new finish hardware as scheduled.
  - c. Installing doors.

- B. Install Only: Install following items, to be furnished under other Sections:

1. Finish hardware, including hardware to metal frames for wood doors: SECTION 08710 - FINISH HARDWARE.

- C. Related Work Specified Elsewhere:

1. Stile and Panel Wood Doors and Wood Door Frames: SECTION 06510 - CUSTOM ARCHITECTURAL WOODWORK.
2. Wood frames for doors: DIVISION 6.
3. Pressed steel door frames for wood doors: SECTION 08100 - STEEL DOORS AND FRAMES.
4. Glass and glazing: SECTION 08800 - GLASS AND GLAZING.
5. Field finishing of wood doors: SECTION 09900 - PAINTING.

- D. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- E. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to

existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE AND SUBMITTALS.
- B. Reference Standards: Following references apply to this Project:
  1. NFPA 80, Standard for Fire Doors and Windows.
  2. NFPA 101, Life Safety Code.
  3. ANSI/NWMA I.S. 1.7
  4. Section 1300 of AWI "Architectural Woodwork Quality Standards" except as otherwise indicated.
  5. All applicable Life Safety and Building Codes.
- C. Coordination: Coordinate work of this SECTION with that of all other related trades, in particular with that of metal door frames and finish hardware, and finish floor installation to assure proper clearance at door bottoms.
  1. **NOTE: General Contractor shall make submittals for wood and metal doors, metal frames and finish hardware simultaneously, and only after proper coordination of all items by Contractor.**
- D. Certificates of Compliance: Submit certificates from authorized officer of door/frame manufacturing firm indicating that all requirements of Specifications are complied with.
- E. Product Data: Submit manufacturer's product data for all items, including fasteners and other accessories.
- F. Shop Drawings: Submit complete shop drawings for Project, including individual elevations of each door and frame opening, details of construction, joinery, label requirements installation information. Manufacturer's standard drawings may be utilized provided that all extraneous information is crossed out and the information given is sufficiently clear to indicate the intent for this Project.
- G. Samples: Submit following samples:
  1. Corner sample of each type of door.
  2. Samples of face material and finish required.

1.04 WARRANTY BY MANUFACTURER:

- A. Submit warranty by Manufacturer, Installer and Contractor, agreeing to repair or replace defective doors as defined by referenced standards. Warranty shall be in effect during following periods of time after date of substantial completion.
  - a. Solid Core Flush Interior Doors: Life of installation.
- B. Defects include warping (bow, cup or twist), or telegraphing of core construction through face veneer.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

- A. Provide doors manufactured by one of following:
  - 1. Algoma Hardwoods Inc.
  - 2. Eggers Hardwood Products Corp.
  - 3. Weyerhaeuser Company.

2.02 GENERAL WOOD DOOR REQUIREMENTS:

- A. Face Panels: Manufacturer's standard 2 or 3-ply face panels, unless otherwise indicated.
- B. Exposed Surfaces: Same exposed surface material on both faces of each door, except as otherwise indicated.
- C. Metal Glazing Stops: Steel Factory Primed for Paint Finish.
- E. Fire-Rated Doors: Labeled and listed with rating required by a testing and inspection organization acceptable to authority having jurisdiction.

2.03 INTERIOR SOLID CORE FLUSH DOORS FOR TRANSPARENT FINISH:

- A. Faces: Select Red Oak, plane sliced.
  - 1. Grade: Premium
- B. Core Construction: PC (Particleboard core).
- C. Exposed Edges: Match face veneer.

2.04 FIRE-RATED SOLID CORE DOORS:

- A. Faces and AWI Grade: Match faces and grade of non-rated doors in same area of building.

- B. Core Construction: Manufacturer's standard core construction required to provide fire-resistance rating indicated.
  - 1. Provide metal edging for light openings.
- C. Edge Construction: Manufacturer's standard laminated edge construction for improved screw-holding ability.
  - 1. For 45, 60 and 90 minute doors provide *balanced* construction with stile edge reinforcing on *both* stiles.
  - 2. Provide stile edges certified by manufacturer as complying with following requirements:
    - a. Stile edge screw withdrawal resistance: 740 pounds, ASTM D 1037.
    - b. Stile edge split resistance: 751 pounds, ASTM D 143 Modified.

2.05 SHOP FITTING:

- A. Fabricate doors to net size, including bevels, at shop or factory.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. General: Install doors to comply with recommendations of door and hardware manufacturer, as well as requirements of SECTION 08710.
- B. Factory or Shop-Fit Doors: Perform minor cutting as required for proper fit. Machine doors for hardware indicated. Seal cut surfaces after fitting and machining.
- C. Fire-Rated Doors: Install fire-rated doors in accordance with requirements of NFPA No. 80.

3.02 ADJUST AND CLEAN:

- A. Operation: Adjust doors and hardware to achieve proper operation. Rehang or replace doors which do not swing or operate freely, as directed by Architect.
- B. Protection and Completed Work: Advise Contractor of proper procedures required for protection of installed wood doors from damage or deterioration until acceptance of work.

END OF SECTION

**SECTION 08620 - WOOD WINDOWS**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:

1. Wood window units as indicated.
2. Factory or shop glazing of wood windows.
3. Factory priming of wood windows, interiors and exteriors.
4. Replacement sash as indicated, to be installed in existing wood frames.
5. Custom fabrication as required to match existing window units as indicated.
6. Wood louvers in window openings as indicated, including frame and louver.

- B. Related Work Specified Elsewhere:

1. Wood Trim: DIVISION 6, for interior wood trim not specified as integral components of window units (casings, moldings, stools, aprons, subsills, mullion covers and similar components).
2. Sealing of windows at interface with adjacent construction: SECTION 07900 - JOINT SEALANTS.
3. Glazing: Refer to SECTION 08800 - GLASS AND GLAZING for glazing requirements for all window units, including those specified herein to be factory preglazed.
4. Patching/repairing and painting of existing wood frames to receive new windows: SECTION 09900 - PAINTING.
5. Field finish painting of interiors exteriors of wood windows: SECTION 09900.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be effected by any Alternates if accepted.

D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.

B. Standards:

1. Comply with ANSI/NWMA "Industry Standard for Wood Window Units I.S. 2" except to extent more stringent requirements are indicated.

- a. Comply with Class A "Improved" specifications except as more stringent requirements are specified herein.

2. Comply with ANSI/NWMA I.S. 4, "Industry Standard for Wood Windows".

C. Consumer Product Safety Commission (CPSC): Comply with CPSC requirements for safety glass, 16 CFR 1201, to extent applicable.

D. Testing/Certification:

1. Provide NWMA "Quality Certified" label on each unit.

3. Include testing of glazing, including thermal performance requirements.

E. Product Data: Submit manufacturer's data, including quarter-size details of each typical section; and submit information on hardware, weatherstripping and preglazed construction (if any).

F. Field Measurements: Take field measurements and note all existing conditions as required.

G. Shop Drawings: Submit shop drawings for wood windows.

1. Indicate taking of field measurements and observations of conditions on shop drawings.

G. Samples: Submit samples of following:

- 1 Typical corner assembly for each type of frame, louver and fixed sash units.

PART 2 - PRODUCTS

2.01 MATERIALS/FABRICATION:

- A. Manufacturer: Subject to compliance with requirements provide units by by one of following manufacturers.
  - 1. Marvin Windows; Warroad, MN
  - 2. Rolscreen Co., Pella, IA
  - 3. Hurd Millwork; Flagstaff, AZ
- B. Custom Wood Fabricator: At Contractor's option windows made by a qualified architectural woodwork fabricator, complying with requirements specified herein, will be acceptable.
  - 1. If such option is taken, window fabrication shall comply with applicable requirements of SECTION 06410 - CUSTOM ARCHITECTURAL WOODWORK INSTITUTE (AWI), including compliance with AWI Custom Grade standards, Section 1000 - Exterior Windows.
- C. Types (Operation): Drawings indicate locations of operating sash of the following types for wood window units:
  - 1. Fixed units (without operating sash).
- D. Classification (Grade): NWMA Class A.
  - 1. Provide NWMA "Quality Certified" label on each unit.
- E. Glazing: Preglaze units, except do not preglaze light sizes in excess of 100 unites inches, unless specifically recommended by manufacturer. Provide either wood stops, or "groove-glazed" system (non-removable stops) glazed during assembly of sash rails.
  - 1. Preglaze with manufacturer's standard sealant and application method.
  - 4. Glass: Except as otherwise indicated, preglaze wood window units with clear fused-glass-edged insulating glass units; fabricated of 1/8" float or sheet glass, except fabricated of 3/32" float or sheet glass where light sizes are smaller than 7.5 sq. ft. and smaller than 69 unites inches.
    - a. High-Performance "Low E" Glazing: Provide High Performance "Low E" coated insulating glazing system, with coating applied to No. 3 surface.
    - b. Provide glass with certified maximum winter U-value 0.32 based on ASHRAE winter nighttime conditions, outdoor temperature 0 deg. F; indoor temperature 70 deg. F; wind velocity of 15 mph.



- F. Shop Prime Coat Finish: Manufacturer's standard wood primer, Fed. Spec. TT-P-25, applied to exterior-exposed surfaces only.
- G. Wood Louvers: As manufactured by Wasco American Woodwork Specialties; or approved equal.
  - 1. Fabricate or modify as required to fit into new openings as indicated.

PART 3 - EXECUTION

3.01 PREPARATION:

- A. Arrange for proper installation of openings for new windows.
- B. Remove sash from existing windows where indicated, provide temporary closure to prevent intrusion of elements into building. Arrange for proper repair/patching and repainting of frame. Do not install new sash until Architect has been notified and given opportunity to observe refurbished sash.

3.02 INSTALLATION/ERECTION:

- A. Comply with window manufacturer's recommendations, to achieve weathertight and freely operating installation.
- B. Maintain alignment with adjacent work. Securely anchor assemblies to framed openings, plumb, square and without distortion.
- C. Pack shim spaces tightly with insulation around entire perimeter, to maintain continuity of building thermal barrier.

3.03 FINAL CLEANING:

- A. Remove labels and visible markings.
- B. Clean window frames, sash and glass. Use only materials and methods as recommended by window manufacturer.

END OF SECTION

PHASE II RENOVATION - STATE HOUSE  
AUGUSTA, MAINE

SECTION 08710 - FINISH HARDWARE

**PART I - GENERAL**

1.01 Work Included:

- a. Furnish and install finish hardware for all doors including:
  - 1. Door silencers for all frames
  - 2. Key storage cabinet
  - 3. Weatherstripping and thresholds
  - 4. Door bottoms sound seals
  - 5. Other

1.02 Related Work:

- a. Section 08110 Steel Doors and Frame
- b. Section 08210 Wood Doors
- c. Section 09900 Painting (prime coat painted hinge, door closers, etc...)

1.03 Quality Assurance:

- a. The hardware supplier shall have in his employ an architectural hardware consultant (AHC) or a person with equivalent number of years required for AHC qualifications. This person shall be recognized as having the ability to be fully responsible for the scheduling, detailing and execution of this section of the specifications and related items. This qualified consultant shall be responsible for processing all submissions, correspondence, technical matters related to the finish hardware and it's application specified in this section.

1.04 References:

- a. ANSI A115 Standards for door and frame preparation
- b. ANSI A156 Standards for finish hardware
- c. NFPA 80
- d. Other applicable life safety or building codes.

1.05 Submittals:

- a. The hardware supplier shall, if requested, submit for approval one sample of each of the hardware items listed prior to receiving approval of the finish hardware schedule. The approved samples shall be available for installation as part of the project, if the supplier determines it to be in his best interest to do so.

- b. The submission list accompanying samples shall include the following information:
- | Item    | Catalog No. | Manufacturer |
|---------|-------------|--------------|
| Lockset | 6666        | Lock Company |
- c. The following is a list of the samples required:
- 1- Exit device with cylinder dogging and with exit device trim.
  - 2- Door closers with cush-n-stop arm.
  - 3- Locksets with lever handles.
- d. Samples required for use as physical templates by other trades shall be purchased and paid for by the respective trade requiring them.
- e. The finish hardware supplier shall submit for approval a complete and detailed finish hardware schedule using a vertical typewritten format. The finish hardware schedule shall contain a listing of the name of each manufacturer and the product listing for the series included in the hardware schedule.
- f. It shall be the responsibility of the finish hardware supplier to obtain from the owner or the owner's representative, a detailed keying schedule listing the respective key symbol and location for the locksets having the corresponding key symbol.
- g. Provide one (1) sepia copy and three (3) regular copies of the finish hardware schedule for approval.
- h. The finish hardware supplier shall make available to the general contractor a detailed list of template numbers and templates required for each of the door manufacturers that require templates.

1.06 Delivery, Storage and Handling:

- a. The finish hardware shall be delivered to the jobsite and received there by the general contractor. The general contractor shall prepare a locked storage room with adequate shelving, for all hardware. The storage room shall be in a dry, secure area, and shall not include storage of other products by other trades.
- b. All finish hardware shall have the necessary screws, bolts and other fastenings required for correct installation of each item. The cylinders, locksets, exit devices, door closers, shall be clearly marked with the respective individual door or heading number.

- c. After the hardware has been installed and prior to the acceptance of the building by the owner, it shall be the general contractors responsibility to properly protect the hardware and the hardware finish from all dents, scratches, defacing that may occur during the construction period. Hardware that is considered damaged or scratched during the construction period shall be replaced by the general contractor at no cost to the owner or hardware supplier. Hardware items with paint on them shall be cleaned and/or replaced by the general contractor at no charge to the owner or hardware supplier.

1.07 Warranty:

- a. The finish hardware specified for this project shall be guaranteed against defects in material and workmanship for a period of (1) year from date of completion and acceptance of this building. In addition, door closers shall carry a guarantee of five (5) years from date of completion and acceptance of this building.
- b. If an item of hardware is found to be defective by reasons of defects in material and workmanship, it shall be replaced by the hardware supplier at no charge to the owner. The installation of the replacement item shall be the responsibility of the general contractor if within the building guarantee period specified under general conditions, or by the owner if beyond the building guarantee period.

1.08 Approval of Substitutions:

- a. Manufacturers and model numbers listed herein are to establish a standard of quality. If products other than those specifically identified herein are to be considered for use on this project, they must be submitted for approval by the architect at least ten (10) calendar days prior to receipt of bids by the owner.
- b. Requests for approval of substitutions shall be submitted in writing, to the architect, and must be accompanied by catalog cuts, technical information and physical samples.
- c. Approval of the substitutions will only be valid when issued to all bidders, by the architect, in the form of an addendum to this specification.

**PART II PRODUCTS**

**2.01 MATERIAL**

**A. HINGES**

1. All hinges for this project shall be, steel, stainless steel, solid bronze, ball bearing type except as noted.
2. The following is a guide for hinge size and type required for this specification.

a.

	<u>MANUFACTURER</u>	<u>EXTERIOR</u>	<u>INTERIOR</u>
1 3/4" Doors up to 3'0" wide	Stanley	FBB191-4 1/2"	FBB179-4 1/2"
	Hager	BB1191-4 1/2"	BB1279-4 1/2"
	McKinney	TB2314-4 1/2"	TB2714-4 1/2"
1 3/4" Doors over 3'0" wide	Stanley	FBB199-4 1/2"	FBB168-4 1/2"
	Hager	BB1199-4 1/2"	BB1168-4 1/2"
	McKinney	T4B3386-4 1/2"	T4B3786-4 1/2"

- b. The width of hinges shall be sufficient to clear all trim.
  - c. Wood fire rated doors with hinge stiles not properly constructed to receive full mortise hinges, shall have half-surface hinges of a comparable weight as listed for full mortise hinges.
  - d. Doors in channel iron frames shall have half mortise hinges of a comparable weight as listed for full mortise hinges.
  - e. Hinges of foreign manufacture shall not be considered acceptable for this project.
3. Two hinges shall be provided for each door leaf up to and including five feet (5'0") in height. An additional hinge shall be required for each additional two and one half (2'6") or fraction thereof in height.
  4. All exterior doors, and any interior doors so indicated in hardware sets, shall be furnished with non-removable pins (NRP).
  5. Refer to finish section for hinge finish.

**B. MORTISE LEVER HANDLE LOCKSETS:**

1. Locksets for this project shall be mortise type with solid cast stainless steel lever handle sectional trim.
2. The lockset case shall be .093 gauge wrought steel with zinc dichromate finish.
3. Strikes shall be curved lip stainless steel ANSI Standard A15.1, 4 7/8" x 1 1/4".
4. Locks and cylinders shall be manufactured and supplied by the same manufacturers. All locksets and cylinders for this project shall be manufactured in the United States of America by a recognized and reputable lock manufacturer.
5. Locksets for labeled fire doors shall have a fusible link or other mechanism to prevent latchbolt retraction in the event of fire.
6. The following is a guide to the manufacturers and designs acceptable for this project.  
Schlage L9000 Series 06L Design  
Sargent 8100 Series LHL Design
7. The following is a list of lock functions as indicated under "hardware sets":

<u>FUNCTION</u>	<u>CORBIN</u>	<u>SARGENT</u>	<u>SCHLAGE</u>	<u>RUSSWIN</u>
A	57	04	80	59
B	51	05	53	56
C	10	15	10	25
D	55	37	70	45
E	54	16	60	42
F	20	65	40	69

**C. EXIT DEVICES:**

1. All exit devices for this project shall be the narrow stile (design) for all doors and shall be of the same series and design, throughout the project, and shall be manufactured by one manufacturer. The narrow stile (design) series shall be supplied for wood, hollow metal and aluminum doors.
2. Each device shall have a .078, 14 gauge, stainless steel continuous horizontal mounting rail with a high impact Lexan touch pad on the rail assembly.

3. The chassis shall be a narrow stile, solid cast pressure formed almag or non-ferrous alloy and shall be mounted directly to the door with four (4) wood or machine screws.
4. The chassis cover shall be .062, 16 gauge, cold formed stainless steel, fastened to the solid cast pressure formed chassis, by four (4) Phillip head machine screws, at the side of the chassis cover.
5. The rail assembly shall be .078, 14 gauge, heavy wrought stainless steel. The rail assembly shall have a .062, 16 gauge, heavy wrought stainless steel touch bar with high impact Lexan touch pad.
6. The end cap shall be a high impact resistant black lexan, fastened to the rail assembly by means of two, stainless steel Phillip head machine screws.
7. For ease of operation, the touch bar shall activate the latch retractor by means of a sliding motion towards to lock stile, activating lever arm for easy operation and reduced friction.
8. All exit devices, regardless of function, except for fire rated devices, shall have one point cylinder dogging. The cylinder for cylinder dogging shall be a six (6) pin key removable core cylinder keyed to the Sargent Great Grand Master-key System as specified under Section, "Keying 2.01F."
9. Trim for exit devices shall be the following as specified:
  - (A) Cast stainless steel lever handle with cast escutcheon with cylinder, where specified, and for all fire rated doors.
10. Devices for fire rated fire doors shall have the same function numbers as those for non-rated doors but with the appropriate prefix or suffix to indicate a U.L. approved devices.
11. 80 Series exit devices, as manufactured by Sargent & Co., and 33 Series exit devices as manufactured by Von Duprin Division, meeting all of the specification requirements set forth above, shall be considered acceptable for this project.
12. Provide mortise lock or concealed vertical rod exit devices for single doors. For pairs of doors, provide either mortise lock devices with open back strike, or concealed vertical rod devices for both leaves of pairs of doors.

VON DUPRIN

SARGENT

Single Doors:	33L	8313ETL
Pairs of Doors:	3347L	8313ETL x 8400

**D. KEYING:**

1. All locks and cylinders shall be 6 pin tumbler key removable and interchangeable core cylinders keyed as required by the owners instruction and operated by the existing Best masterkey.
2. It is required that the key systems have visual key control and that all keys and cylinders be stamped with the alphanumeric key symbol designated for each key change as recommended by the Nomenclature for Masterkey Systems established by the Door and Hardware Institute.
3. Provide each key removable core cylinder with a construction masterkey core of brass or plastic. The construction cores shall be used by the General Contractor throughout the construction period. One (1) week prior to acceptance of the building, or at the owners request, the successful hardware contractor shall visit the building and by use of a special control key, shall remove the brass or plastic construction cores from all cylinders and replace them with the permanent cores required with each cylinder.

**E. DOOR CLOSERS:**

1. All door closers for this project shall be the product of one manufacturer, and shall have cast iron cases with full cover and be full rack and pinion type construction, non-handed and non-sized with adjustable back-check effective at 70° for both standard and parallel arm mounting.
2. The following products will be acceptable:

Corbin	- K120
LCN	- 4040
Russwin	- K2820
Sargent	- 1250
3. The hardware contractor shall insert in the hardware schedule, beside each door listing, the required degree of opening for each door. If the door swing is over 140 degrees, parallel arm type closers shall be used. Door closers mounted on corner brackets, or top jamb application, shall not be permitted.



4. Provide hold open arms, where specified, in accordance with the hardware set numbers.
5. Door closers with cush-n-stop arms shall be provided for all exterior, out-swing doors and other openings as specified under hardware sets. They shall have heavy forged steel parallel arms and soffit plates attached to the frame by six (6) screws. The forged steel arm shall have a positive stop bracket with an adjustable tension hold-open feature controlled with a slotted screw permitting adjustment from no hold-open to full restraint of door movement.
6. Where door closers are noted to require delayed action feature, provide closers as specified herein, but having a separate delayed action valve, to permit adjustment of delayed action cycle. When adjusted, the door closer shall close at a controlled rate of speed, through the delayed action cycle range.
7. The installing contractor shall be responsible for proper installation of door closers in accordance with degree of opening indicated on hardware schedule. Adjustment of all valves, for proper control of closing speed, latching speed, delayed action, backcheck, and spring power adjustments, shall be the responsibility of the installing contractor as set forth in Part III Execution.
8. Where top rail of door is insufficient in height to mount the closer directly to the rail, drop brackets shall be provided.

**F. DOOR STOPS:**

1. It shall be the responsibility of the hardware supplier to provide door stops for all doors in accordance with the following requirements.
2. Wall type bumpers with a concealed type flange shall be used wherever possible and shall be one of the following:
  - Ives - 407 1/2
  - Door Controls - 3211T
  - Rockwood - 409

3. Where wall type bumpers cannot be used, such as on unreinforced partitions or in situations where door comes in contact with material such as glass, or any other obstruction, provide dome type floor stops of the proper height.

Ives - 436, 438  
Door Controls - 3310X, 3320X  
Rockwood - 440, 442

4. Exterior doors striking masonry and other doors specified to have door stops and holders shall have cast bronze wall or floor type door stops holders with hook or staple to engage door and to selectively hold in open position. The following will be acceptable:

Ives - 445, 446  
Door Controls - 3237X, 3347X  
Rockwood - 473, 477

**G. PUSH - KICK - MOP ARMOR PLATES:**

1. Push plates shall be .050 gauge solid brass or stainless steel 16" high by 8" wide.
2. Kick plates shall be .050 gauge solid brass or stainless steel 8" high by 1 1/2" less door width for single doors and 1" less door width for pairs of doors.
3. Kick plates shall be applied on the push side of all doors where noted.

**H. FLUSH BOLTS:**

1. Extension flush bolts shall have forged bronze face plate with extruded brass lever and with wrought brass guide and strike. Rods for flush bolts shall be 12" steel or brass for doors up to 7'-6" in height. Where doors are over 7'-6" in height the flush bolt rod length shall be increased in increments of 6" for each 6" of additional door height. Plate size shall be 6 3/4" x 1" to meet ANSI A115 and SDI specifications. Bolt projection shall be 5/8".
2. Floor strikes for flush bolts shall be dustproof type cast or extruded bronze with cast bronze floor plate minimum 3 1/2" x 1 5/8" with masonry anchors for concrete floors. Provide a dustproof strike, for sill application, for all bottom flush bolts for all pairs of doors.

3. The following products will be acceptable:
  - Ives - 458
  - Glynn Johnson - FB6
  - Door Controls - 780

**I. THRESHOLD - WEATHERSTRIPPING - DOOR BOTTOMS:**

1. For all exterior doors not requiring floor closers, provide a flat extruded or cast aluminum threshold 5" wide by full width of door opening. Threshold shall be 1/2" high and shall have beveled edges and a corrugated surface. Anchor thresholds with no less than four (4) machine screw anchors for 3'0" lengths. Provide non ferrous solid brass or stainless steel screws.
2. For all exterior hollow metal doors, provide an extruded aluminum perimeter seal with neoprene gasketing material (weatherstripping) for head and jambs. The neoprene seals shall be an airfoil design to permit full and positive closure between door and jamb. The continuous aluminum brackets shall be applied on the stop with stainless steel sheet metal screws at the corner of the rabbet located so as to provide full closure at the head and jamb perimeters. Where the door comes in contact with the frame, the maximum projection for the continuous aluminum weatherstripping brackets shall be no more than 1/4".
3. Weatherstripping (gasketing material) shall be classified by Underwriters Laboratories for application on fire door frames, for openings rated up to 3 hours.
4. The finish for the exposed continuous aluminum weatherstripping brackets, shall be natural anodized aluminum finish.
5. The door bottom seal for exterior doors shall be concealed in the bottom of the door and shall be a flexible synthetic vinyl that will not take a formal set, nor break or flake in cold weather. The door bottom seal shall extend the full width of the door and shall also extend below the door bottom and compress against the top for the threshold, for complete closure. The door bottom seal shall be fastened to the recessed channel with 3 or 4 screws through the seal or the seal chassis.

6. Surface applied door bottoms shall not be considered acceptable. Concealed door bottoms must be installed before the door is in place.

**J. FINISH:**

1. With the exceptions of hinges, door closers, plates, coordinators, thresholds and weatherstripping, all hardware items shall be furnished in a Polished Brass finish US3 for all areas except the Press Corp. Area which will have a 26D Satin Chrome finish.
2. Exceptions are as follows:  
Door Closers: USP  
Thresholds: Natural Anodized Aluminum  
Weatherstripping: Natural Anodized Aluminum

**2.03 HARDWARE SET NUMBERS:**

1. The Hardware Sets listed below indicate the items of hardware required for each opening. It is the bidders responsibility to accurately furnish the proper quantities, items, sizes, weights and functions as required by the plans and this specification. If an opening has, through error, been omitted from the following hardware set numbers listings, it shall be the bidders responsibility to supply hardware of equivalent quality and quantity, as that which is specified for a comparable opening.

HW1

Pair Doors B100

Each pair shall have: Hinges - Exit Device - Flush Bolts -  
Door Closer - Kick Plate - Weatherstripping - Thresholds -  
Door Bottoms - Silencers

HW2

Doors B102, B103, B104,\*B105, B106, B108, B109, B110, B111,  
103, 104, 105, 106

Each leaf shall have: Hinges - Lockset Function B - Door  
Closer - Door Stop - Silencers

NOTE:

\*\* Kick Plate at Door No.

B105.

HW3

Doors 100, 100A

Each leaf shall have: Hinges - Exit Device - Door Closer - Kick Plate - Silencers

HW4

Doors B102A, B107, B108A, 106C

Each leaf shall have: Hinges - Lockset Function F - Door Stop - Silencers

HW5

Doors 106A, 337A

Each leaf shall have: Hinges - Lockset Function C - Door Stop - Silencers

HW6

Doors 225A, 225B, M225, M225A, M225B, 227, 316, 320, 342A, 400B, 422C

Each leaf shall have: Hinges - Lockset Function B - Door Stop - Silencers

HW7

Doors 225, 337, 337B, 400, 422, 422A, 422B, 424

Each leaf shall have: Lockset Function B

NOTE: All other hardware is existing to be reused.

HW8

Doors 228, 333

Each leaf shall have: Lockset Function C

NOTE: All other hardware is existing to be reused.

HW9

Doors 342, 343

Each leaf shall have: Hinges - Lockset Function C - Door Closer - Kick Plate - Door Stop - Silencers

HW10

Door 225C

Each pair shall have: Hinges - Lockset Function C - Flush Bolts - Door Stops - Silencers

**PART 3 - EXECUTION:**

**3.01 INSPECTION**

- a. It shall be the general contractors responsibility to inspect all door openings and doors to determine that each door and door frame has been properly prepared for the required hardware. If errors in dimensions or preparation are encountered, they are to be corrected by the responsible parties prior to the installation of hardware.

**3.02 PREPARATION**

- a. All doors and frames, requiring field preparation for finish hardware, shall be carefully mortised, drilled for pilot holes, or tapped for machine screws for all items of finish hardware in accordance with the manufacturers templates and instructions.

**3.03 INSTALLATION/ADJUSTMENT/LOCATION**

- a. All materials shall be installed in a workmanlike manner following the manufacturer's recommended instructions.
- b. Exit devices shall be carefully installed so as to permit friction free operation of crossbar, touch bar, thumb latch, lever or knob. Latching mechanism shall also operate freely without friction or binding.
- c. Door closers shall be installed in accordance with the manufacturer's instructions. Each door closer shall be carefully installed, on each door, at the degree of opening indicated on the hardware schedule. Arm position shall be as shown on the instruction sheets and required by the finish hardware schedule.
- d. The adjustments for all door closers shall be the contractor's responsibility and these adjustments shall be made at the time of installation of the door closer. The closing speed and latching speed valves, shall be adjusted individually to provide a smooth, continuous closing action without slamming. The delayed action feature or back check valve shall also be adjusted so as to permit the corrected delayed action cycle or hydraulic back check cushioning of the door in the opening cycle. All valves must be properly adjusted at the time of installation.

Each door closer has adjustable spring power capable of being adjusted, in the field, from size 2 thru 6. It shall be the contractors responsibility to adjust the spring power for each door closer in exact accordance with the spring power adjustment chart illustrated in the door closer installation sheet packed with each door closer.

- e. Installation of all other hardware, including locksets, push-pull latches, overhead holders, door stops, plates and other items, shall be carefully coordinated with the hardware schedule and the manufacturers instruction sheets.
- f. Locations for finish hardware shall be in accordance with dimensions listed in the pamphlet "Recommended locations for Builders' Hardware" published by the Door and Hardware Institute.

### **3.04 FIELD QUALITY CONTROL**

- a. Upon completion of the installation of the finish hardware, it shall be the responsibility of the finish hardware supplier to visit the project and to examine the hardware for each door on which he has provided hardware and to verify that all hardware is in proper working order. Should he find items of hardware not operating properly, he should make a report, in writing, to the general contractor, advising him of the problem and the measures required to correct the problem.

### **3.05 PROTECTION**

- a. All exposed portions of finish hardware shall be carefully protected, by use of cloth, adhesive backed paper or other materials, immediately after installation of the hardware item on the door. The finish shall remain protected until completion of the project. Prior to acceptance of the project by the architect and owner, the general contractor shall remove the protective material exposing the hardware finish.

### **3.06 CLEANING**

- a. It shall be the responsibility of the general contractor to clean all items of finish hardware and to remove any remaining pieces of protective materials and labels.

**3.07 INSTRUCTIONS AND TOOLS**

- a. It shall be the responsibility of the finish hardware supplier to provide installation and repair manuals and adjusting tools, wrenches, etc... for the following operating products:
- (1) Locksets (all types)
  - (2) Exit devices (all types)
  - (3) Door closers





SECTION 08800 - GLASS AND GLAZING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:

- 1. Glass and glazing for:

- a. Interior and exterior doors, sidelights and transoms.
    - b. Full length mirrors.

- 2. "Glass products" is hereby defined to include glazing plastics, if any.

- B. Related Work Specified Elsewhere:

- 1. Glass and glazing for wood windows: SECTION 08620 - WOOD WINDOWS.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.

- B. Standards: Provisions of this section are specified for general compliance with the following standards, which are applicable except as otherwise indicated:

- 1. Prime Nonprocessed Glass: ASTM C 1036.

2. Heat Treated Glass: ASTM C 1048.
3. Consumer Product Safety Commission (CPSC) Safety Glass: 16 CFR 1201.
4. NFPA 101, Life Safety Code.
  - a. In event NFPA 101 requirements for wired glass conflict with other requirements, NFPA 101 shall prevail; in all other cases CPSC requirements shall prevail.
5. ANSI Safety Glazing: ANSI Z97.1.
6. BOCA 1987.

C. Product Data: Submit manufacturer's product specifications and handling/installation/protection instructions for each type of glass and glazing material required.

B. Samples: Submit samples of following:

1. Mirror glass.

#### 1..04 SPECIFIED PRODUCT WARRANTY:

A. Warranty on Hermetic Seals: Provide insulating glass manufacturer's written warranty, agreeing to, within specified warranty period, furnish FOB project site, replacement units for insulating glass units which have defective hermetic seals (excluding that due to glass breakage); defined to include intrusion of moisture or dirt, internal condensation at temperatures above -20 deg. F (-31 deg. C), deterioration of internal glass coatings, and other visual evidence of seal failure or performance failure.

1. Warranty Period: 10 years after seal date permanently imprinted on unit, but not less than 9 years after date of Substantial Completion of Projects.

## PART 2 - PRODUCTS

### 2.01 GLASS TYPES AND PRODUCTS:

- A. Float/Plate Glass: Quality q3; clear unless a color (tint) is indicated; thickness indicated, 1/4 inch if not otherwise indicated.
- B. Polished Wire Glass: Quality q11, clear, square mesh; 1/4 inch thick, UL labeled "fire resistant."
  1. Product: Baroque by PPG; or approved equal.
- C. Tempered Glass: Clear float glass, heat treated to 4.0 x annealed strength; 3/16 inch thick except as otherwise indicated.

1. Provide at doors, sidelights, other locations as required by CPSC CFR 16.
  2. Provide at other locations indicated on Drawings.
- D. Laminated Safety Glass: 2 sheets of 1/8 inch clear float glass, laminated with 30-mil PVB.
1. At Installer's option, laminated safety glass may be used in lieu of full-tempered safety glass, if meeting all applicable Code criteria for specific locations.
- E. Insulating Glass: Comply with SIGMA standards. Provide with Class A sealant-type edge construction to maintain a hermetic seal, with insulating spaces filled with dry air or gas and dessicant material. Provide manufacturer's standard 10-year product warranty on maintained hermetic seal, and with manufacturer's stamp, date of manufacture, and SIGMA certificate permanently imprinted on interior corner of unit. Provide glass types as follows:
1. Exterior and Interior Glass: 1/8 in. clear float or polished plate, tempered safety glass complying with CPSC and ANSI Z97.1
  2. Air Space: 3/8 in.
- F. Mirror Glass: Type I, Class 1, Quality q2, 1/4 in. thick, with silver coating, copper protective coating, and non-metallic paint coating.
1. Provide with manufacturer's standard 10-year guarantee against silvering spoilage.
- 2.02 SEALANT-TYPE GLAZING MATERIALS:
- A. General: Provide colors indicated or as selected by Architect, black if not otherwise indicated/selected. Except as otherwise indicated, comply with manufacturer's recommendations for selection of hardnesses and other product variations to meet compatibility requirements and project/installation circumstances.
- B. Silicone Sealant: Fed. Spec. TT-S-001543, Class A, acid type; except where one or both bond surfaces are porous, provide nonacid type.
1. Optional Sealant: "Dymeric" by Tremco, Inc.
- C. Butyl Rubber Glazing Tape: Partly-vulcanized self-adhesive, non-staining, 98% solids, elastomeric performance for 35% compression; passing 3000-hr. Atlas Weatherometer test; plain or pre-shimmed, as required for installation.
- D. Acrylic Sealant: Fed. Spec. TT-S-00230, Class B, Type II, solids 95% acrylic, solvent-based.
- E. Butyl Rubber Sealant: Fed. Spec. TT-S-001657, Type I, solvent-based, 75% solids, 24-hr. tack-free, paintable, nonstaining.

1. Preformed Butyl Rubber Sealant: 95% solids, coiled on release paper; where required for installation, provide with reinforcing string or pre-shim.
- F. Glazing Compound: Not permitted.
- 2.03 MISCELLANEOUS GLAZING ACCESSORIES:
  - A. Vinyl Foam Tape: ASTM D 1667; flexible, closed-cell, self-adhesive, non-extruding.
  - B. Setting Blocks: 70 - 90 durometer hardness; neoprene unless otherwise selected for compatibility.
  - C. Spacers: 40 - 50 durometer hardness; neoprene unless otherwise selected for compatibility.
  - D. Filler Rod: Flexible, resilient, closed-cell or jacketed foam, compatible with sealants required, 5 - 10 psi compression for 25% deflection.
  - E. Joint Cleaners, Primers, Sealers: Type recommended by manufacturer of sealants/gaskets for use on indicated glazing channel surfaces.
  - F. PVC Gaskets: ASTM D 2287, flexible.
  - G. Cellular Rubber Gaskets: ASTM C 509, Type II, closed-cell neoprene, integral skinned, extruded or molded.
  - H. Mirror Mastic: Product regularly used for adhesive support of mirrors, provided by or recommended in writing as best suited for purpose intended by mirrored glass manufacturer.

### PART 3 - EXECUTION

#### 3.01 GENERAL GLASS INSTALLATION (GLAZING) REQUIREMENTS:

- A. General: Except as otherwise indicated, comply with glass manufacturer's instructions, glazing materials manufacturer's instructions, and "Glazing Manual" by FGMA and other technical publications of recognized authorities in the industry. Install each piece to achieve watertight and airtight performance, and to minimize breakage.
- B. Clean channel surfaces and prime or seal surfaces where recommended by sealant manufacturer.
- C. Cut glass to proper size, except cut processed/fabricated glass units to proper size prior to processing/fabricating; provide for adequate edge clearance and bite on glass.
- D. Inspect glass edges at time of setting, and discard pieces with significant edge damage.

- E. Locate setting blocks, 2 per light, at 25% of glass width, measured from corners. Set in thin bed of sealant if heel or toe bead is required.
  - F. Install spacers inside and out, all around, where liquid or plastic/mastic compounds are used, except on glass sizes smaller than 50 united inches.
  - G. Set each piece in each series to match other pieces, with pattern, draw, bow, and other characteristics uniformly oriented.
  - H. Provide glazing sealants, compounds, tapes and gaskets as indicated, making specific product selections in compliance with manufacturer's recommendations. Coordinate materials for compatibility, and do not use solvent-release materials for glazing laminated glass, sealant-edged insulating glass, or glazing plastics.
  - I. Provide filler rod where sealants are used in head and jamb channels, for glass which is more than 1/2 inch thick, and for colored, tinted, heat-absorbing, coated and laminated glass over 75 united inches in size, and for other glass over 125 united inches in size.
  - J. Do not leave voids in the glazing channel except as specifically indicated or recommended by glass manufacturer.
  - K. Force sealants into channels, to eliminate voids and to effectively "wet" bond surfaces. Tool exposed surfaces to provide slight wash away from joint; trim and clean promptly.
  - L. Do not attempt to cut or otherwise work tempered glass after tempering.
  - M. Set mirror glass in mastic spots or strips as recommended by mirror manufacturer, but with not less than 75% of back surface ventilated and free of mastic. Support mirrors at edges with J-shaped moldings as indicated.
- 3.02 GLAZING SYSTEMS:

A. Exterior Doors and Transoms:

- 1. Glaze with clear safety insulating glass, unless otherwise indicated.
  - a. Provide tempered or laminated safety glass at doors and sidelights, elsewhere as required by CFR 16 or BOCA, and as indicated.
- 2. Glaze from interior side.
- 3. Apply a bed of butyl sealant along entire inner surface of outside (fixed) stop, depth to completely fill rabbet space.
- 4. Apply pre-shimmed interior tape along entire inner surface of outside (fixed) stop. Take special care to locate so that tape will be below sight line (1/8 in. minimum, 1/4 in. maximum). Butt tapes carefully at corners without gaps. Do not overlap.

5. Place setting blocks at 1/4 points along bottom rabbet. Position glass into rabbet with forward pressing motion, shifting slightly laterally in order to produce proper adhesive bond along entire perimeter of tape, free of gaps or breaks.
6. Place interior tape along interior side of glass, taking special care so that it will project slightly, (1/16 in. maximum) above the sight line. Butt tapes carefully at corners without gaps. Do not overlap.
7. Apply glazing stops as recommended by the door/frame manufacturer.
8. Apply sealing bead of 1-part silicone sealant to exterior, flush with stop and with slight wash surface from glass.
9. Finished installation shall provide a minimum face clearance on both sides of glass of 1/8 in., with face clearances uniform to within 1/16 in. tolerances. Edge clearance shall be 1/4 in. average, with minimum clearance at any point not under 3/16 in., 5/16 in. maximum.
10. After approval of installation, neatly trim interior edge of tape with sharp knife or razor flush with sight line.

B. Glazing for Interior Windows and Doors:

1. Glaze with clear polished plate or float glass at vestibules and vestibule doors.
  - a. Provide tempered or laminated safety glass at doors, sidelights, elsewhere as required by CFR 16 or BOCA; except where polished wired glass is required, and as indicated.
2. Place setting blocks at 1/4 points along bottom rabbet.
3. Apply continuous strip of foam glazing tape around perimeter of glass sheet with adhesive side toward glass. Turn tape turned onto each surface of glass to form a channel around entire perimeter.
4. Set glass in place and attach glazing beads.
5. Provide tape of thickness as to be compressed to approximately 70 percent of original thickness along entire perimeter of glass.
6. Trim off excess tape with razor blade or other sharp tool, level with sight line.
7. Where any glass edges are exposed, chamfer to prevent sharp edges.

C. Mirrors: Install as detailed, with resilient spacers at bottom edge, with supplemental securement by spots of adhesive on back surface.

3.03 CURE, PROTECTION, AND CLEANING:

- A. Protect exterior glass from breakage immediately upon installation, by use of crossed streamers attached to framing and held away from glass.
- B. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces. Cure sealants for high early strength and durability.
- C. Clean compound smears and stains from adjacent surfaces as the work progresses.
- D. Remove all labels, excess glazing compounds, stains, and spots from glass upon completion of glazing.
- E. Acceptance: Immediately prior to time of substantial completion, replace glass which is broken, chipped, cracked or otherwise damaged, and wash and polish inside and out:
  - 1. Include glass broken by natural causes, accident, or vandalism.

END OF SECTION





**SECTION 09250 - GYPSUM DRYWALL, LATH & PLASTER**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

1. Light-gauge metal support systems for gypsum drywall and veneer plaster partitions/ceilings.
    - a. *NOTE:* Terms "skim coat" and "veneer" as used herein and on Drawings are synonymous, and include the complete veneer plaster finish and gypsum drywall backing panel system.
    - b. Include suspension systems for gypsum drywall ceilings,
    - c. Include chase wall partitions as indicated, with furring and bracing to existing walls.
  2. Acoustical insulation within stud spaces of gypsum drywall and veneer plaster system.
  3. Acoustical sealant in gypsum drywall system where "sealant" or "acoustical sealant" is indicated; or where required to achieve STC (Sound Transmission Class) ratings indicated.
  4. Gypsum drywall and veneer coat backing panels.
  5. Trim and accessories for gypsum drywall and veneer coat plaster.
  6. Taping and finishing of joints and fastener depressions of gypsum drywall panels.
  7. Cutting/patching/repairing of existing furring, lath and plaster systems, and existing gypsum drywall, plaster or veneer plaster systems (if any) as indicated or required.
    - a. Include infill at existing door/window/other openings as indicated, to match existing construction (each side).
- B. Related Work Specified Elsewhere:
    1. Wood support system for gypsum drywall: DIVISION 6.
    2. Thermal insulation: SECTION 07210 - BUILDING INSULATION.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be effected by any Alternates if accepted.
- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by the Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Reference Standards: Comply with following to extent applicable:
  - 1. Gypsum Board Standard: GA-216 by Gypsum Association and ASTM C 840.
  - 2. Metal Support Standard: ASTM C754.
  - 3. Gypsum Plastering (Conventional): ANSI A49.3.
  - 4. Furring and Lathing (Conventional): ANSI A42.4.
- C. Fire-Resistance Ratings: Where hourly fire-resistance ratings are indicated or are required to comply with governing regulations, provide materials and installations identical with applicable assemblies which have been tested per ASTM E 119 by fire testing authorities acceptable to authorities having jurisdiction.
  - 1. Provide fire-resistance rated assemblies identical to those indicated by reference to Gypsum Association File No's. in Gypsum Association "Fire Resistance Directory" or in listing of other testing and agencies acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.01 METAL SUPPORT SYSTEMS:

- A. General: Unless otherwise indicated new partitions and suspended drywall ceilings shall be metal support systems as specified herein.
  - 1. Provide metal furring over existing wood frame supports such as studs and floor joists, unless otherwise indicated.
- B. Wall/Partition Support Materials:
  - 1. Studs and Runners: ASTM C 645, 25-gauge unless otherwise indicated.

2. Furring Members: ASTM C 645, 25-gauge, hat-shaped.
  - a. Where shown as "Resilient", provide manufacturer's special type designed to reduce sound transmission.

C. Ceiling Support Materials:

1. Main Runners: Steel channels, hot or cold-rolled, size as per ASTM C 754.
2. Hanger Wire: ASTM A 641, soft, Class 1 galvanized.
3. Hanger Anchorage Devices: Screws, clips, bolts, concrete inserts or other devices applicable to the indicated method of structural anchorage for ceiling hangers and whose suitability for use intended has been proven through standard construction practices or by certified test data. Size devices for 5 x calculated load supported, 10 x for direct pull-out concrete inserts.
4. Direct Suspension System: Zinc-coated or painted steel system of furring runners, furring tees and accessories designed for concealed support of screw-attached gypsum drywall ceilings.
5. Hat-Shaped Furring Channels: ASTM C 645.
  - a. Where shown as "Resilient", provide manufacturer's special type designed to reduce sound transmission.
6. Furring Members: ASTM C 645; 25-gauge "Cee"-shaped studs.

2.02 DRYWALL MATERIALS:

- A. Exposed Gypsum Board: ASTM C 36.
  1. Long Edges: Standard taper.
  2. Thickness: 5/8 in., except as otherwise shown.
    - a. For application over solid substrate (not studs or furring), 3/8 in. thick material may be used, except as otherwise shown.
  3. Type: Provide Type X Fire-Resistant throughout.
- B. Gypsum Backing Board: ASTM C 442.
  1. Type: Provide Type X throughout.

2.03 GYPSUM WALLBOARD ACCESSORY MATERIALS:

- A. General: Provide auxiliary materials for gypsum drywall, of the type and grade recommended by the manufacturer(s) of the gypsum drywall panels and as required by existing conditions.

- B. Concealed Acoustical Sealant: Mastic type; non-shrinking, non-drying, non-migrating, and non-staining. Provide one of following:
    - 1. Presstite 579.64.
    - 2. Gold Bond Acoustical Sealant.
    - 3. Tremco Acoustical Sealant.
  - C. Exposed Acoustical Sealant: Non-oxidizing, skin-forming, paintable, gunnable sealant for exposed applications, complying with ASTM C 919.
  - D. Gypsum Board Fasteners: Type recommended by gypsum board manufacturer, except as otherwise indicated.
  - E. Sound Attenuation Blankets: ASTM C 665, Type I, semi-rigid mineral fiber blanket without membrane, Class 25 flame spread, minimum density 3.0 pcf, thicknesses as indicated.
  - F. Trim Accessories: Provide manufacturer's standard metal trim accessories, of the beaded type with face flanges for concealment in joint compound except where semi-finishing or exposed type is indicated.
    - 1. Provide corner beads at external corners.
    - 2. Provide edge trim of the shape indicated where edge of gypsum board would otherwise be exposed or semi-exposed; L-type for tight abutment at edges, otherwise U-type except special kerf-type where kerf is provided in adjoining work.
    - 3. Provide resilient slip-on-type PVC edge trim (semi-finishing) where indicated for juncture of walls and partitions with ceilings.
    - 4. Provide special J-type (semi-finishing) zinc-alloy edge trim at exposed edges of exterior gypsum board which are not concealed by applied moldings.
  - G. Joint Tape: ASTM C 475, perforated.
  - H. Joint Compound: ASTM C475, of the type indicated.
    - 1. Provide ready-mixed vinyl-type for interior work.
    - 2. Provide 2 separate grades of compound; one specifically for bedding tape and one for topping.
- 2.04 VENEER PLASTER SYSTEM MATERIALS:
- A. General: Materials for veneer plaster systems, including veneer plaster, accessories and base panels, *must* be the products of a single manufacturer.

B. Gypsum Board Base for Veneer Plaster:

1. Face Layer: Fire-Shield Kal-Kore, tapered edge, 4 ft wide by not less than 8 ft in length; 5/8 in thick unless otherwise indicated.
2. Base Layer for Two Layer Construction: Backer Board, 4 ft wide, single lengths as required. NOTE: Where fire-retardant backer board is required, it shall be Fire-Shield Backer Board.

C. Veneer Plaster: Gold Bond Uni-Kal (one-coat system).

D. Accessories:

1. General: Accessories *must* be by the same manufacturer as that of the veneer plaster base.
2. Joint Reinforcement for Veneer Plaster Base Surface Board: Kal-Mesh glass fiber tape.
3. Corner Beads: Kal-Korner Bead, galvanized metal with 1/8 in. ground and 1-1/4 in. flanges.
4. Casing Beads:
  - a. No. 233 Casing Bead: Use at edge of ceilings where ceilings abut dissimilar materials. NOTE: Provide with compressible vinyl gasket.
  - b. Veneer L Trim Casing Bead: Use a finish edge at door and window jambs, and other dissimilar surfaces.
  - c. NOTE: All casings shall be fabricated from galvanized steel.
5. Expansion Joint: E-Z Strip Expansion Joint, extruded vinyl control joint.

2.05 LATH AND PLASTERING MATERIALS (CONVENTIONAL PLASTERING):

A. General: Provide plastering materials as required to match existing adjacent surfaces, in particular the surface texture.

B. Aggregate:

1. Sand:
  - a. For gypsum base plaster, ASTM C35.
  - b. For portland cement plaster, ANSI A42.2.

2. Lightweight Aggregate: Perlite or vermiculite at Installer's option.
- C. Lime: ASTM C207, Type "S".
- D. Portland Cement: ASTM C150, Type I.
- E. Water: Free from alkali and substances affecting the set of plaster.
- F. Gypsum Neat Plaster: National Gypsum Company, U. S. Gypsum Company, Bestwall Gypsum Division/Georgia Pacific; or approved equal.
- G. Furring and Lathing Materials: Comply with ANSI A42.4, and as required to match existing construction.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION AND PREPARATION:

- A. Installer must examine substrate to which drywall, plaster and related materials are to be applied, and conditions under which work is to be installed; and notify General Contractor in writing of conditions which would adversely affect proper and timely completion of this work. Do not proceed with installation until unsatisfactory conditions have been corrected in manner acceptable to Installer.

#### 3.02 INSTALLATION OF METAL SUPPORT SYSTEMS:

- A. Comply with ASTM C 754 except as otherwise specified.
- B. Do not bridge building expansion joints with support systems, frame both sides of joints with furring and other supports as indicated.
- C. Ceiling Support Suspension Systems:
  1. Secure hangers to structural support by connecting directly to structure where possible, otherwise connect to inserts, clips other anchorage devices or fasteners as indicated.
  2. Provide indirect hung metal support system with main runners spaced 4 ft-0 in. o.c., hangers 4 ft-0 in. o.c. along runners and furring members 1 ft-4 in. o.c., unless otherwise indicated.
    - a. At Contractor's option, provide direct hung metal support system, including perimeter wall track or angle, with members spaced and installed to comply with manufacturer's instructions.
- D. Wall/Partition Support System:
  1. Install steel studs with bottom and top runner tracks anchored to substrates. Isolate system from building structure to prevent transfer of loading and deflections into metal support system, both vertically and horizontally.

2. Frame door and other openings with studs and runners and gauge, number and arrangement to comply with manufacturer's recommendations for size of opening, weight of doors and height and stud size, unless otherwise indicated.
  - a. Except as indicated otherwise, provide doubled 20-gauge studs at doors, and two 20-gauge steel studs of same depth as partitions placed with webs vertical and flanges facing each other as headers, to which attach jack studs at not over 16 in on centers.
3. Install supplementary framing, runners, furring, blocking and bracing at openings and terminations in gypsum drywall and where required for support of other work which cannot be adequately supported on gypsum board alone.
4. Space wall studs at 24 inches on centers unless otherwise noted.
  - a. Space studs for panels supporting wall tile at 16 inches on centers.

3.03 INSTALLATION OF GYPSUM DRYWALL AND VENEER PLASTER BACKING PANELS:

- A. Pre-Installation Conference: Meet at the project site with the installers of related work and review the coordination and sequencing of work to ensure that everything to be concealed by panels has been accomplished, including but not limited to blocking, supports, mechanical and electrical work, and that chases, access panels, openings, supplementary framing and blocking, and similar provisions have been completed.
  1. NOTE WELL: Notify Architect and allow opportunity for Architect to observe installation of supporting system, insulation, and all other work to be covered; do not proceed until Architect has authorized such covering. Failure to observe this requirement will be justification for Architect to order uncovering of any part or all of the supporting system and replacement with new gypsum board at no additional cost to Owner.
  2. Do not apply panels until all required inspections and approvals of construction to be covered have been secured from applicable governing authorities having jurisdiction.
- B. Standards: Comply with GA 216 and ASTM C 840, and manufacturer's recommendations; except as otherwise specified.
  1. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 1 ft-0 in. in alternate courses of board.
  2. Install exposed board with face side out. Do not install imperfect, damaged, or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 in. open space between boards. Do not force into place.



3. Locate either edge or end joints over supports, except in horizontal applications or where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that both tapered edge joints abut, and mill-cut or field-cut end joints abut. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
  4. Attach board to continuous framing and blocking as required for additional support at openings and cutouts. Leave no edges unsupported.
  5. Cover both faces of steel stud partition framing with board in concealed spaces (above ceilings, etc.).
  6. Isolate perimeter of partitions at structural abutments. Provide 1/4 in. to 1/2 in. space and trim edge with J-type semi-finishing edge trim. Seal joints with acoustical sealant. Do not fasten boards directly to stud system runner tracks.
  7. Space fasteners in boards in accordance with referenced standards and manufacturer's recommendations, except as otherwise indicated.
    - a. Use only screw-type fasteners, for both metal and wood supports. Nails will not be acceptable.
- C. Control Joints: Form control joints and expansion joints with space between edges of boards, prepared to receive trim accessories.
- D. Floating Construction: Where feasible, including where recommended by manufacturer, install gypsum board with "floating" internal corner construction, unless isolation of the intersecting boards is indicated, unless control or expansion joints are indicated, or unless fire rating is indicated.
- E. Acoustical Insulation: Install sound attenuation blankets as indicated, prior to board application unless readily installed after board has been installed. Install acoustical insulation so as to tightly fill spaces between supports, free of gaps or voids. Take special care at electrical devices and the like, and notify Architect if any such items are placed back to back so as to create a leak in the acoustical seal.
  1. Provide acoustical insulation throughout. Seal the work at perimeters, control and expansion joints, openings and penetrations with a continuous bead of acoustical sealant including a bead at both faces of partitions. Comply with manufacturer's recommendations for location of beads, and close off sound-flanking paths around or through the work, including sealing of partitions above acoustical ceilings.
- F. Single-Layer Application:
  1. On partitions/walls apply gypsum board vertically (parallel), unless otherwise indicated, and provide sheet lengths which will minimize end joints.

2. On partitions/wall 8 ft-1 in. or less in height apply gypsum board horizontally (perpendicular); use maximum length sheets possible to minimize end joints.
- G. Multi-Layer Application: Install backing board for base layers and exposed gypsum board for face layer, except backer board may be used behind slot walls.
1. Laminate face layer to backing board layer where multi-layer work is indicated or required to make up indicated thickness. Provide supplementary fastening through face layers where indicated, required to obtain applicable STC or fire-ratings, or recommended by manufacturer or applicable reference standards.
  2. On ceilings apply base layer prior to base layer application on walls/partitions; apply face layers in same sequence. Offset joints between layers at least 10 in. Apply base layers at right angles to supports unless otherwise indicated.
  3. On partitions/walls apply base layer and face layers vertically (parallel) with joints of base layer over supports and face layer joints offset at least 10 in. with base layer joints.
- H. Direct-Bonding to Substrate: Where panels are indicated to be directly adhered to a substrate (other than studs, joists, furring members or base layer of gypsum board), comply with gypsum board manufacturer's recommendations, and temporarily brace or fasten gypsum board until fastening has set.
- 3.04 INSTALLATION OF DRYWALL TRIM ACCESSORIES:
- A. General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges by nailing or stapling in accordance with manufacturer's instructions and recommendations.
  - B. Install metal corner beads at external corners of drywall work.
  - C. Install edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed. Provide type with face flange to receive joint compound except where semi-finishing type is used.
- 3.05 DRYWALL FINISHING:
- A. Except as otherwise indicated, apply joint tape and joint compound at joints (both directions) between gypsum boards. Apply compound at accessory flanges, penetrations, fasteners heads and surface defects.
  - B. Apply compound in 3 coats (plus prefill of cracks where recommended by manufacturer); sand after last 2 coats.
    1. For backer board, for gypsum drywall tile walls and elsewhere as indicated, apply tape and compound in two coats, apply compound at

accessory flanges, penetration, fastener heads; trowel smooth, sanding not required.

3.06 GYPSUM VENEER PLASTER APPLICATION:

A. General: Comply with manufacturer's recommendations and requirements specified herein.

B. Joint Treatment:

1. Center and secure mesh over all joints and interior angles with 1/4 in. or 5/16 in. noncorrosive staples.
2. Position staples a maximum of 24 in. apart as follows:
  - a. Joints: At alternate edges for the run from end to end, and directly opposite one another at either end.
  - b. Angles: Along ceiling edge only for wall-to-ceiling angles. Along one edge for wall-to-wall angles.
3. After the first staples are placed at the end of a joint or angle, pull unstapled mesh as stapling proceeds to assure that it will lie flat against the gypsum base.
4. Pre-treat all joints with Kal-Kote Plaster and allow plaster to set prior to general plaster application. Tightly trowel over joint line in both directions to prevent voids, feathering to a maximum width of about 6 in.
5. Allow the treated joints to set prior to general plaster application.

C. Veneer Plaster Proportioning and Mixing: One bag Uni-Kal Smooth Finish and 18-20 quarts of water. NOTE: Small amounts of commercial gypsum type retarder or accelerator may be used to adjust setting time when extreme conditions demand. When commercial retarder or accelerator is used, add to mixing water directly, or in previously prepared water solution form to obtain the most uniform effect. Do not use gauging or molding plaster in place of commercial accelerator. Mix no more than two bags per batch.

D. Veneer Plaster Application:

1. Tightly scratch material into previously treated joints and corner beads, then immediately scratch in tightly over the ceiling areas.
2. Double back over the area just troweled with material from the same batch bringing total thickness up to 3/32 in. minimum.
3. Begin finish troweling at time of initial set, using water sparingly. Final troweling must be accomplished before complete set takes place, as evidenced by darkening of the surface.

4. Apply to 1/32 in. thickness minimum, evenly applied and properly troweled. Surfaces shall be uniform in color, free from stains, marks, and defects, straight-edged, plumb, and level in every direction, with all angles straight and true.

a. Match existing adjacent plaster finishes.

3.07 CONVENTIONAL FURRING, LATH AND PLASTER:

A. General: Make alterations to existing furring, lath and plaster systems as indicated on Drawings and as required to neatly tie new work indicated into and to match existing work. Patch existing work disturbed by new construction to match existing.

B. Furring and Lath:

1. Comply with referenced standards.
2. Match existing construction as required.

C. Plaster:

1. Comply with referenced standards.
2. Provide sand or light weight aggregate mix as required to match existing surface textures.
3. Match existing construction as required.

3.08 CLEANING:

A. Remove all splatterings and droppings resulting from gypsum drywall and plastering work. Remove all surplus materials and rubbish resulting from the performance of drywall, lathing and plastering work from the work areas on a daily basis.

B. Leave floors broom clean at the completion of this work.

3.09 PROTECTION OF WORK:

A. Installer shall advise Contractor of required procedures for protecting gypsum drywall work and plaster from damage and deterioration during remainder of construction period.

END OF SECTION



**SECTION 09300 - TILE WORK**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

1. Ceramic tile walls and wainscots.
2. Ceramic mosaic tile floors, and walks.
3. Leveling and setting materials and accessories.
4. Pointing of tile work, including resilient pointing.
5. Control joints in tile work.
6. Marble thresholds.
7. Repair/patch/extend existing marble flooring to match existing adjacent material as indicated.
8. Removal of existing tile from floors and walls where indicated to receive new tile, preparing surfaces for new tile, new backing surfaces for tile walls as required.

- B. Related Work Specified Elsewhere:

1. Preparation of new concrete slabs to receive tile: SECTIONS 03300 - CAST-IN-PLACE CONCRETE.
2. Toilet accessories: SECTION 10800.

- C. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Standards: Mortar and grout materials and installation standards of the American National Standards Institute (ANSI) and Standard Specification for Ceramic Tile TCA 137.1 apply to the work, except as otherwise indicated.
- C. Submittals: With manufacturer's technical data and installation instructions for tile work, submit 3 samples of each type, color, and texture of tile mounted on 12" square backing with joints grouted.
  1. Provide manufacturer's Master Grade Certificate.

PART 2 - PRODUCTS:

2.01 TILE MATERIALS;

- A. Manufacturers: Subject to compliance with requirements provide products of one of following; or approved equal:
  1. Ceramic Tile:
    - a. American Olean Tile Co. Div., National Gypsum Co.
    - b. Dal-Tile.
    - b. Summitville Tiles, Inc.
    - c. U.S. Ceramic Tile Co.
- B. Colors, Textures and Patterns: Provide as indicated, or if not indicated as selected by Architect from manufacturer's standards.
- C. Sizes and Thicknesses: As indicated or, if not indicated, as selected by Architect from manufacturer's standard sizes and thicknesses.
  1. *NOTE* Include checkerboard or other patterns as directed by Architect at a later date; for floors, base, walls and wainscot caps. Allow two colors for each material and a total of four colors in each room or space requiring tile finish.
- D. Tile Grade: "Standard Grade" unless otherwise indicated.
- E. Unglazed Ceramic Mosaic Floor and Base Tile: Factory-mounted flat tile and as follows:
  1. Type:

- a. Floors: Porcelain, full vitreous.
- b. Base and Walls Elsewhere: Natural clay, semi-vitreous.
2. Wearing Surface:
  - a. Floors: Slip-resistant with abrasive content.
  - b. Other Locations: Without abrasive content.
3. Size: 2 inch square, unless otherwise indicated.
  - a. Base: Coved base, from 2 in by 2 in ceramic mosaic trim base, with bullnose or flat top edge to suit wall conditions.
4. Colors: As selected by Architect from Dal-Tile Color Price Range 1, 2 or 3; or approved equivalent by other manufacturers.
  - a. Architect reserves right to select different colors for floors, base and walls.
5. Face: Plain with cushion or square edge as selected.
6. Mounting: Manufacturer's standard back or front (paper) mounting, 12 in by 12 in sheets.
7. Locations: Floors, base as scheduled.
- F. Glazed Wall Tile: Factory-mounted flat tile and as follows:
  1. Size: 4-1/4 in by 4-1/4 in by 1/4 in thick, unless otherwise shown.
  2. Face: Plain with square, modified square or cushion edges as selected by Architect.
    - a. Pre-mounted sheets will be acceptable.
  3. Glaze and Color: Matte or gloss as selected by Architect.
- G. Trim Shapes: Same material, color, and texture as field tile, in shapes and sizes as necessary for proper installation and to accommodate field conditions.
- H. Marble Thresholds: Group "A"; ASTM 503, for exterior use with minimum hardness of 10.0 per ASTM C 241; white, unless otherwise indicated.
- I. Marble Floors: If feasible remove carefully existing material to be removed, re-use in new locations. If necessary provide new material matching existing in color, texture and graining characteristics.



2.02 SETTING AND GROUTING MATERIALS:

- A. Manufacturer: Subject to compliance with requirements provide setting and grouting products by one of the following:
  - 1. A.B. Fuller Co.
  - 2. Laticrete International, Inc.
  - 3. L & M Surco Mfg. Co., Inc.
  - 4. Upco Div, Bostik Construction Products.
- B. Cement Mortar and Grout: ANSI A108.1, materials and installation.
- C. Dry-Set Mortar: ANSI A118.1.
- D. Latex-Portland Cement Mortar: ANSI A118.4.
- E. Organic Tile Adhesive: ANSI A 136.1.
- H. Commercial Cement Grout: Factory-blend of portland cement and additives.
- I. Dry-Set Grout: Factory-blend of portland cement and additives.
- J. Latex Grout: Factory-blend of portland cement and latex additives.
- K. Epoxy Grout: Same material as epoxy mortar, unless otherwise recommended by tile or mortar manufacturer and approved by Architect.
- M. Single-Component Sealants: ASTM C 920, Type S, Grade NS, use NT (for use in joints in non-traffic areas).
  - 1. Use only silicone sealant, colors as selected by Architect.
- N. Metal Edge Strips: Stainless steel or zinc alloy, 1/8 in. wide at top edge.
- O. Glass Mesh Mortar Unit Backing: USG Durock, 1/2 inch thick; or approved equal.
  - 1. Provide Durock Type P tape, fasteners, all other accessories as required for complete and proper installation, as recommended by backing material manufacturer.

PART 3 - EXECUTION

3.01 GLASS MESH MORTAR UNIT BACKING INSTALLATION:

- A. Use at option of Installer as backing material where existing tile is indicated to be removed and replaced.
- B. Comply with all recommendations of backing material manufacturer.

- C. Where necessary furr out new or existing construction to accommodate new installation.

3.02 SETTING OF TILE:

- A. General: Comply with ANSI A108.1 and 108.4 through A108.7 and referenced TCA methods, as well as additional requirements specified herein, as applicable for type of tile and method of installation indicated. Comply with manufacturer's instructions for application for proprietary materials.
- B. Joint Pattern: Use grid pattern with joints as follows, unless otherwise indicated.
  - 1. Ceramic Tile: 1/16 in wide joints.
  - 2. Quarry Tile: 1/4 inch wide joints.
- C. Floor Tile Installation: Unless otherwise indicated, install floor tile as follows:
  - 1. ANSI Methods:
    - a. Ceramic Mosaic Tile, Other Locations: Thin-set system, ANSI A108.5
  - 2. TCA Methods:
    - a. Thin-Set Portland Cement Mortar: TCA F113-87.
  - 3. Grout:
    - a. Latex-portland cement grout for concrete fill over metal decks and over drywall surfaces.
    - b. Commercial portland cement grout elsewhere.
  - 4. Special Requirements; Dry-Set or Thin-Set Methods:
    - a. Follow specified ANSI and TCA standards.
    - b. Adhesive application will not be acceptable.
    - c. Floors shall have a smooth, steel troweled finish, level to within 1/4 in. in 10 ft. Grind/level existing floors following removal of existing floor finishes as required.
    - d. Setting bed for ceramic tile shall be 1/8 in. thick minimum.
    - e. Setting bed for quarry tile shall be 1/4 in. thick minimum.
    - f. Insert spacers between units, where not integral part of the tile, so that all joints are of uniform width throughout.

- g. Provide latex-portland cement mortar setting bed on concrete fill over metal deck.
  - h. Provide dry-set mortar setting bed on slabs on grade.
- D. Wall and Base Tile: Unless otherwise indicated, install wall tile as follows:
- 1. ANSI Methods:
    - a. At Installer's option apply to glass mesh mortar backing at existing walls with dry-set method, ANSI 108.5 (modified); or by water-resistant adhesive method if surfaces are adequately smooth and sound and free of foreign matter.
    - b. To New Drywall: Water-resistant adhesive application method, ANSI A108.4 modified as specified herein.
  - 2. TCA Methods:
    - a. Dry-set Application (Masonry): TCA W244-87.
    - b. Adhesive Installation: TCA W242-87 modified as specified.
    - c. Dry-set application. TCA W202 (with leveling coat).
  - 3. Grout:
    - a. Latex-portland cement mortar for floors and bases over concrete fill on metal decks.
    - b. Commercial portland cement grout elsewhere.
  - 4. Special Requirement; Adhesive Method:
    - a. Follow specified standards and additional requirements specified.
    - b. For back-mounted units comply with tile manufacturer's recommendations.
    - c. Apply skim coat of adhesive to entire surface with flat edge of trowel, allow to harden, before applying adhesive with notched trowel. Apply extra adhesive to fill in space behind cove of base units, between edges of wallboard and counters, and to seal openings at plumbing pipes and other projections through the wall.

**NOTE WELL:** Notify Architect when above procedure has been completed. Do not cover with tile until Architect has examined and approved such application, or has given positive indication that such examination will not be required. Failing this, *Architect shall have the right to order any or all of the substrate uncovered, and replaced with conforming materials and installation methods, at no additional cost to the Owner.*

5. Special Requirements; Dry-Set Method:
  - a. Following specified standards.
  - b. For spot patching or where leveling coat is 1/4 in. or less, Dry-Set mortar or latex-portland cement mortar is permissible; or use Dry-Set mortar to which an equal volume of a mixture of one part portland cement and 1-1/2 parts fine sand have been added.
  - c. Where leveling coats are greater than 1/4 in. provide leveling bed of one part portland cement, 1/2 part hydrated lime and not over 5 parts sand; or one part portland cement, one part hydrated lime and not over 7 parts fine sand.
- E. Pointing (Conventional Grout):
  1. Point at interface with other material and as indicated.
  2. Use mildew resistant silicone sealant. Apply in accordance with manufacturer's directions.
- F. Special Grouts: Follow strictly recommendations of grout and tile manufacturers, and additional requirements as specified herein.
  1. Take special care to prevent staining to faces of tile and to other finished surfaces. Wipe and clean immediately any surplus material.
- G. Expansion, Control, Contraction, and Isolation Joints: Provide as indicated, or, if not indicated, to comply with recommendations of TCA "Handbook for Tile Installation".
  1. Sealing of tile joints is work of *this* section.
  2. Use only mildew-resistant silicone sealant.
- G. Stone Thresholds: Set stone stone threshold in same type of setting bed as abutting field tile unless otherwise indicated.
  1. Set thresholds in thinset mortar for locations where mortar would otherwise be exposed above adjacent non-tile floor finish.
- H. Marble Flooring: Cut and install tile to match existing adjacent marble floor construction to remain.
  1. Match joint width, pattern and color.

### 3.02 CLEANING AND PROTECTION:

- A. Clean tile in accordance with applicable ANSI standard for type of tile and method of installation used and manufacturer's instructions. Apply heavy kraft paper or other heavy protective covering to prevent surface damage.

- B. Do not under any circumstances use acid for cleaning glazed tile; or for tile products grouted with furan or epoxy resin unless otherwise recommended by grout manufacturer. Use acid for cleaning unglazed tile only if other methods fail to achieve satisfactory results, and then only if approved by Architect.
  - 1. If acid is used, take special precautions to prevent damage to other surfaces and materials. Mask as required, and rinse thoroughly as work progresses.

END OF SECTION

**SECTION 09500 - ACOUSTICAL CEILINGS**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:

- 1. Acoustical panel ceilings, exposed suspension.
- 2. Metal suspension systems and accessories for acoustical ceilings.

- B. Related Work Specified Elsewhere:

- 1. SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS: Removal of existing suspended ceiling construction.
- 2. DIVISION 16 - ELECTRICAL: Individual hanger supports for light fixtures occurring in acoustical ceilings.

- C. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be effected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 QUALITY ASSURANCE; SUBMITTALS:**

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.

- B. Standards:

- 1. Acoustical Materials: Fed. Spec. SS-S-118.
- 2. Suspension Systems: ASTM C 635 for materials; ASTM C 636 for installation.

3. Surface Burning Characteristics: Flame spread: 25 or less; smoke developed 50 or less; per ASTM E 84. UL listed and marked.
  - a. Factory Mutual Compliance: Class I.
- C. Product Data: Submit product data for acoustical units and accessories. Include manufacturer's recommendations for cleaning and maintenance of acoustical units.
- D. Samples: Submit 12 in by 12 in square samples of each exposed acoustical unit; 6-inch lengths of each exposed metal unit.
- E. Maintenance Stock: At time of completing installation, deliver stock of maintenance material to Owner. Furnish full size units matching units installed, packaged with protective covering for storage, and identified with appropriate labels.
  1. Furnish amount equal to 5.0 percent of each acoustical unit and exposed suspension material installed.

## PART 2 - PRODUCTS

### 2.01 ACOUSTICAL PANELS:

- A. General: Provide manufacturer's standard panel units complying with the following requirements under type and prepared for mounting system indicated.
- B. Acoustical Panel 24 x 24 Inch: Mineral composition lay-in panels.
  1. Product: Armstrong Minatone Cortega Tegular Lay-in 704A; or approved equal.
  2. Size: 24 inch by 24 inch.
  3. Thickness: 5/8 inch.
  4. Scoring/Edge Treatment: Rabetted edge four sides.
  5. NRC: 50-60.
  6. STC: 35-39.

### 2.02 SUSPENSION SYSTEMS:

- A. General: Provide system(s) as required to support acoustical units, fixtures and other components as indicated, including anchorages, hangers, runners, cross runners, splines, clips, moldings, fasteners and other members, devices and accessories. Comply with requirements of ASTM C 635.
- B. Hanger Wire: Not less than 12-gage (0.106 in) galvanized steel.

C. Exposed Steel Suspension System:

1. Suspension Type: Direct-Hung or Indirect-Hung Suspension System at option of Installer.
  - a. Provide supplementary indirect suspension where necessary to avoid hanging directly to ductwork or other mechanical or electrical equipment in ceiling space.
  - b. Carrying Channels for Indirect Hung Systems: 1-1/2 in cold-rolled or hot-rolled steel channels, weighing not less than 0.475 lbs. per linear ft.
2. Exposed Runner Type: Double Web.
3. Structural Class: Intermediate-Duty System.
4. Material and Finish: Steel, standard color painted, unless otherwise indicated.

D. Edge Molding: Metal angle type with single hemmed flange exposed except as otherwise indicated.

1. Finish: Painted, white.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Layout: Balance ceiling borders on opposite sides, using more-than-half width acoustical tiles.
  1. Follow reflected ceiling plans.
- B. Tolerance: 1/8 in in 12 ft 0 in level tolerance.
- C. Pattern Direction: Align joints unless otherwise indicated. Install patterns one way, or alternate units to form a "checkerboard" pattern, as directed by Architect.
  1. *Note* Consult with Architect to determine which pattern is desired for each type of ceiling and area, before commencing installation.
- D. Suspension System: Secure to building structure, with hangers spaced 4 ft 0 in (maximum) along supported members.
  1. Provide anchors and other fasteners as necessary for securing to existing construction, and new construction already in place.
- E. Edge Moldings: Secure to substrate with screw anchors spaced 16 in on centers.



Phase II Renovations, State House

1. Cope exposed flanges of intersecting suspension members for flush intersections.
  - F. Installation; Panels: Set panels in place to lay flat and in continuous contact with metal supporting members.
- 3.02 ADJUST AND CLEAN:
- A. Clean exposed surfaces of acoustical ceiling, including trim, edge molding, and suspension members.
  - B. Comply with manufacturer's instructions for cleaning and touch-up of minor finish damage tile.
  - C. Adjust any misfitting acoustical units; remove and replace any work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

**SECTION 09650 - RESILIENT FLOORING**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:

1. Vinyl composition tile flooring ("VCT").
2. Entry mat tiles ("Rubber Mat").
3. Resilient base ("Vinyl").
4. Resilient stair treads and risers.

- B. Related Work Specified Elsewhere:

1. SECTION 03300-CAST-IN-PLACE CONCRETE:

- a. Filling, leveling and grinding of depressed and/or high spots in concrete surfaces in excess of 1/8 in. in any direction when tested with a ten foot straightedge.
- b. Cleaning of all new concrete surfaces free of dirt, grease, curing compounds or other substances which may prevent complete adhesion of resilient flooring materials.

2. SECTION 06100 - ROUGH CARPENTRY: Plywood flooring/subflooring, stair treads and risers.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be effected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE AND SUBMITTALS.
- B. Submittals: With manufacturer's product data and installation instructions, submit the following:
  - 1. Samples of each type, color and pattern of sheet flooring, and 2-1/2 in. long for accessories.
  - 2. Maintenance instructions for each type of flooring.
- C. Replacement Material: Provide replacement material in the amount of two percent of each type and color of flooring, stair tread and base material installed.

PART 2 - PRODUCTS

2.01 FLOORING MATERIALS:

- A. Colors and Patterns: As scheduled or shown, or, if not shown, as selected by Architect from manufacturer's premium or standard colors and pattern selections.
  - 1. Include 2-color pattern as directed by Architect at a later date.
  - 2. Include border of feature strips as selected and directed by Architect.
- B. Vinyl Composition Tile: Fed. Spec. SS-T-312, Type IV, composition as indicated below; 12 in. x 12 in. x 1/8 in. gage unless otherwise indicated.
  - 1. Composition: Composition 1 - asbestos free.
  - 2. Product: Subject to compliance with requirements, provide one of following:
    - a. Excelon; Supreme or Stonetex as selected by Architect Armstrong World Industries, Inc.
    - b. Architectural Collection Custom Cortina or Futura; Azrock Floor Products Div., Azrock Industries.
    - c. Approved equal by Tarkett.
- C. Entry Mat Tiles: Fluff cord tile made from recycled heavy-duty truck or bus tires with close-nap carpet-like surface, bonded to flexible backing; 12 inch by 12 inch by 3/8 inch thick, natural gray-tone color with integral design in each tile.
  - 1. Product: Musson Designer Pattern Fluff Cord Tile; or approved equal.

- D. Raised Profile Rubber Tile: Rubber tile units composed 100% synthetic virgin rubber, pigments, stabilizing fillers, integral waxes and soil-releasing agents; with raised surface pattern of median profile discs, low profile 1.024"-1" in diameter, 0.5mm in height; minimum overall tile thickness of 4mm; with sanded backs; in manufacturer's standard size.
1. Product: Subject to compliance with requirements; provide Norament 925B-354 by Nora Flooring Div., Robus Products Corp.; or approved equal by:
    - a. Roppe Rubber Corp.
- E. Resilient Stair Treads: Provide treads where shown, consisting of single-piece units for width of stair treads, or equal-length units if tread width exceeds available manufactured lengths.
1. Type: Provide rubber stair tread units complying with Fed. Spec. RR-T-650, Type A, Class 1 or 2 to suit conditions, sanded backs, style as indicated.
  2. Design: Provide radial design, with raised circular studs matching the raised profile low profile rubber tile design full depth, not less than 1/4 in. at front and tapering to 1/8 in. nominal at rear.

2.02 ACCESSORY MATERIALS:

- A. Vinyl Wall Base: Fed. Spec. SS-W-40, Type II; 4 in. high; 0.080 in. gage; with matching stops and preformed corner units; standard top-set cove.
1. Manufacturer: Subject to compliance with requirements, provide material by one of following:
    - a. Flexco Div., Textile Rubber Co. Inc.
    - b. GAF Corp, Floor Products Div.
    - c. Kentile Floors, Inc.
    - d. Mercer Plastics Co. Inc.
    - e. National Floor Products Co.
    - f. Vinyl Plastics Inc.
  2. Base for Carpet: Provide straight type for both padded and unpadded (glue-down) carpeting.
- B. Resilient Edge Strips: Not less than 1 in. width; 1/8 in. gage; tapered bullnose edge, color to match flooring or as selected by Architect.
- C. Adhesives (Cements): Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.

1. NOTE: Provide **only** waterproof (type I) adhesives as recommended by resilient flooring manufacturer for application to slabs on and below grade, regardless of substrate location or surface.
  2. NOTE: Provide only epoxy type adhesive as recommended by tread manufacturer for stair treads and risers, and for raised profile rubber tile.
- D. Concrete Slab Primer: Non-staining type, for use if and as recommended by flooring materials manufacturers.
- E. Leveling Compound: Portland cement mortar based material with latex additive, formulated to allow troweling out to fine feathered edge, as approved by flooring products manufacturer.
1. NOTE: Provide only epoxy type filler and leveling materials as recommended by tread manufacturer for stair treads and risers.
- F. Resilient Stair Risers: Single-piece risers for height and width of stair risers, or equal-sized units if riser width exceeds available manufactured lengths, of same material and color as treads unless otherwise indicated.
1. Color of Resilient Stair Risers: Match color and material of stair treads.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION:

##### A. General:

1. Where movable partitions are shown, install resilient flooring before partitions are erected.
2. Install flooring using method indicated or specified, in strict compliance with manufacturer's recommendations. Extend flooring into toe spaces, door reveals, and into closets and similar openings.
3. Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device.
4. Install flooring on covers for telephone and electrical ducts, and other such items as occur within finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers. Tightly cement edges to perimeter of floor around covers and to covers.
5. Tightly cement flooring to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll flooring at perimeter of each covered area to assure adhesion.

B. Resilient Tile Floors:

1. Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis, unless otherwise shown.
  - a. At irregular shaped rooms or spaces, lay tile as indicated or if not indicated as directed by Architect. Obtain Architect's determination before applying tile.
  - b. Before laying tile, consult with Architect and determine tile is to be run with grain running in same direction, or in "checkerboard" fashion with grain reversed in alternate tiles.
2. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged if so numbered. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tiles are not acceptable.
3. Adhere tile flooring to substrates using full spread of adhesive applied in compliance with flooring manufacturer's directions.

D. Base: Apply wall base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable. Tightly bond base to substrate throughout length of each piece, with continuous contact at horizontal and vertical surfaces.

1. Form internal corners by heating and bending base to fit tightly against substrate and mitering bottom cove edge; extend minimum of 12 inches each side of corner.
2. Provide only preformed corner units at external corners.
3. On masonry surfaces, or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.

E. Resilient Edge Strips: Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.

F. Stair Treads, Risers, Raised Profile Rubber Tile: Securely bond with epoxy adhesive, with nose fitting tightly against face of stair or nosing. Fill any voids or gaps between substrate and tread/riser/tile material with an epoxy stair caulk as recommended by tread/tile/riser manufacturer. Roll treads until firm bond is obtained.

G. Entry Mat Tiles: Comply with manufacturer's recommendations.

3.02 CLEANING AND PROTECTION:

- A. General: Remove any excess adhesive or other surface blemishes, using neutral type cleaners as recommended by flooring manufacturer. Protect installed flooring with heavy Kraft paper or other covering.
- B. Finishing: After completion of project and just prior to final inspection of work, thoroughly clean floors and accessories.
  - 1. Except for mat tiles apply polish and buff, with type of polish, number of coats, and buffing procedures in compliance with flooring manufacturer's instructions.

END OF SECTION

**SECTION 09680 - CARPETING**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:
  - 1. Direct glue down carpeting as scheduled.
  - 2. Carpet adhesives, seaming, anchorage, edge treatment and other accessories.
- B. Related Work Specified Elsewhere:
  - 1. Resilient base: SECTION 098650 - RESILIENT FLOORING.
  - 2. Entry mat tile: SECTION 09650 - RESILIENT FLOORING.
- C. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- E. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 CASH ALLOWANCE:**

- A. The Contract Price shall include the Cash Allowance as specified under SECTION 01010 - SUMMARY OF WORK, for the furnishing and installation of following:
  - 1. Carpet: Approximately 125 square yards.
  - 2. Type 2 Carpet: Approximately 250 square yards.
  - 3. Type 2 Carpet: Approximately 250 square yards.



Phase II Renovations, State House

- B. The Cash Allowance shall be the net amount available for purchase, delivery and installation of carpeting and underlayment as selected, and *shall not* include charges for the following, which shall be deemed to have been included in the Contract Price exclusive of the Cash Allowance.
  - 1. Contractor's charges for overhead and profit.
  - 2. Losses or damages to the carpeting after installation.
- C. Contractor shall award a subcontract for the furnishing and installing of carpeting, as directed or approved by the Owner or Architect. Refer to SECTION 01010 for additional requirements covering Cash Allowances.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Installer: A firm with not less than 5 years of experience in installation of commercial carpet, by methods similar to those required for this project.
- C. General Information Standard: Refer to "Carpet Specifier's Handbook" by The Carpet and Rug Institute for general information and recommendations and for definitions of terminology.
- D. Product Data: Provide product data for each carpet material.
- E. Test Reports: Submit laboratory test reports for carpet.
- F. Shop Drawings: Submit carpet layout drawings at same scale as contract drawings, showing carpet seam locations, direction of pattern and nap, and location and type of edge treatment and divider stripping (if any).
- G. Samples: Submit 18 in. x 27 in. samples of each type, color, and pattern of carpeting materials required, and 6 in. lengths of edge guard stripping.
- H. Maintenance Materials: Deliver specified usable scrap materials to Owner's designated storage space as directed, properly packaged/protected and identified.
- I. Maintenance Manual: Submit manual of carpet manufacturer's complete recommendations for the care, cleaning, and maintenance of each type of carpeting; prepared after detailed analysis of Owner's intended occupancies and resulting traffic conditions.

1.04 PRODUCT DELIVERY AND STORAGE:

- A. Deliver carpeting materials in protective wrapping, and store inside, protected from weather, moisture, and soiling.

1.05 JOB CONDITIONS:

- A. Coordinate installation of carpeting with preparations for project substantial completion and closeout. Delay installation until space enclosures and other general finish work have been completed; and until continuing construction traffic in carpeted areas will be minimal; and until ambient conditions are being maintained by operation of HVAC system to comply with specified requirements including carpet manufacturer's recommendations.

1.06 WARRANTY:

- A. Provide special project warranty, signed by Contractor and Installer, agreeing to repair or replace defective materials and workmanship of carpeting work during 2-year warranty period, without cost to Owner; and agreeing to repair or replace other defects beyond Contractor's-Installer's-Manufacturer's control, as judged by Architect, at Owner's expense at prevailing rates. Warranty and enforcement shall not deprive Owner of other available actions, rights, or remedies. Attach copies of product warranties to executed special project warranty.

PART 2 - PRODUCTS

2.01 CARPET:

- A. General: Provide carpet materials as selected by Architect under Cash Allowance.
- B. Yarn Colors: Provide each carpet type from the same dye lot throughout, solution dyed only. Provide yarn colors as selected by Architect from manufacturer's complete range of stock singles program yarn colors.
  - 1. Architect may select up to 2 colors for Project.
- C. Static Protection: Provide carpet types of such composition and construction as to permanently restrict static electricity development to less than 3.0 kilovolts at 20 percent relative humidity at 70 deg. F, as measured by standard shuffle test.
- E. Fire Rating: Provide carpet complying with all State of Maine requirements for its particular use in the building. Provide certificates as required with affidavit indicating that materials meet NFPA 253 requirements of 0.22 watt/CM SQ minimum; as well as NFPA 101 1985 and BOCA 1984.
- F. Testing: Provide carpet with shrinkage, seam strength and other applicable characteristics complying with requirements of Fed. Spec. DDD-C-95; with testing in accordance with applicable ASTM Standards.

2.02 ACCESSORIES:

- A. General: Provide installation materials complying with quality, function, and substance of the products listed below. Architect will be the sole judge of the quality of materials to be used on the project.

- B. Edging: No. 12-1812 Universal Molding by Roberts Consolidated Industries, Inc., or approved equal. Provide color of vinyl insert as selected by the Architect.
- C. Installation Adhesive: Provide adhesive recommended by carpet manufacturer for adequate adhesion and water resistance at each application, but which will allow removal of carpet/cushion with minimum damage to carpeting materials and substrate, and which complies with requirements for overall flammability rating (if any) for carpeting installation.
- D. Seaming Cement: Hot-melt seaming adhesive of the type recommended by the carpet manufacturer for taping seams and buttering cut edges of carpet backing (and bottom of face pile) at seams, to form secure seams and eliminate pile loss at seams.
- E. Miscellaneous Materials: Provide nails, thread, tapes, adhesives, and other accessory items and materials of types recommended by carpet and cushion manufacturers, and as recommended by Installer for project requirements.

### PART 3 - EXECUTION

#### 3.01 PRE-INSTALLATION REQUIREMENTS:

- A. Installer must examine substrates and conditions which which carpeting is to be installed, and notify Contractor in writing of conditions detrimental to proper completion of the work. Do not proceed with installation of carpeting until unsatisfactory conditions have been corrected in a manner acceptable to Installer and carpet manufacturer.
  - 1. Do not install carpet over concrete with either excessive moisture or dust producing surface which is not adequately sealed.
  - 2. Clear away debris, cementitious deposits, and similar obstructions or substrates to receive carpeting. Fill cracks and voids including honeycombed concrete, but do not obstruct expansion joints.
  - 3. Comply with General Requirements for pre-installation conference, scheduled in relation with beginning of carpet installations, and including carpet manufacturer's technical representative.
  - 4. Sequence carpeting installation with other work in a manner which will minimize possibility of damage or deterioration to carpeting, and yet not delay completion of project.
- B. Clean surfaces to be carpeted immediately prior to installation of carpeting materials, by vacuum cleaning.
- C. Dimensions: Prior to start of carpet installation, check critical dimensions of spaces to be carpeted, to ensure that planned use of materials will fulfill requirements, including locations for seams, joints, and edgings.

- D. Prefabrication: At Contractor's option, carpeting materials may be prefabricated prior to delivery to point of installation.

3.02 INSTALLATION:

A. General:

1. Comply with manufacturer's instructions and recommendations. Place seams in directions indicated, and as accepted on shop drawings, if any. Maintain direction of pattern and texture, including lay of pile. Do not seam weft to warp, except as specifically indicated for a direction change.
2. Extend carpet under open-bottomed and raised-bottom obstructions, and under removable flanges of obstructions. Extend carpet into closets and alcoves of rooms indicated to be carpeted, unless another floor finish is indicated for such spaces. Extend carpet under movable furniture and equipment, unless otherwise indicated.
3. Provide cutouts as indicated for removable access devices in substrate. Bind edges as neatly as possible and secure both sides of cuts to the substrate. Use double-faced tape on carpet cutouts which must be lifted from substrate to gain access to devices, unless otherwise indicated. Cut only 3 sides where feasible to provide carpet flap in lieu of fully-removable cutout.
4. Install carpet edge guard at locations where edge of carpet is exposed to traffic, except where another device, such as expansion joint cover system or threshold, is indicated with integral carpet binder bar or edge guard. Anchor edge guard to substrate.
5. Doors: Where seams relate to doors, center seams under door thickness. Do not place carpet seams in traffic direction in doorways.
6. Expansion Joints: Provide special carpeting treatment as indicated at expansion joints in substrate or, if none is indicated, install carpeting with provisions to accommodate movement without damaging carpet installation.

B. Glue-Down Installation:

1. Install a test sample to demonstrate effectiveness of adhesive. With Owner's personnel present, remove sample, demonstrating procedure to minimize damage to carpet. Apply primer to entire substrate where necessary for adequate bond of carpet.
2. Fit sections of carpet into each room or space prior to application of adhesive. Trim off mill edges unless carpet has been pretrimmed. Maintain straight seams, true with lines of building.
3. Apply seaming cement on cut edges of carpet at seams, without being in evidence on face of carpet but securing base of pile at cut.

Phase II Renovations, State House

4. Apply adhesive uniformly to substrate in accordance with manufacturer's instructions. Butt carpet edges tightly together to form seams without gaps. Roll lightly to eliminate air pockets and ensure uniform total-area bond of carpet to substrate. Remove adhesive (if any appears) promptly from face of installed carpet.
- 3.03 CLEANING, PROTECTION, FOLLOW-UP SERVICE:
- A. Remove debris from installation, carefully sorting pieces to be saved from scraps to be disposed of.
  - B. Vacuum carpet with a commercial machine, with rotating agitator or beater in nozzle. Remove spots and replace carpet where spots cannot be removed.
  - C. Advise General Contractor of areas which should be protected during remainder of the construction period, so that carpet will be in undamaged and unsoiled condition at time of acceptance. Recommend type of non-staining cover material that should be used for protective cover.
  - D. Follow-up Service: Return to installation at mutually agreeable time(s), within 6 months following substantial completion of Project (or portion thereof), unless otherwise directed or approved by Owner.
    1. Remove bubbles and/or ripples, repair loose seams and edge joints, and other defects in the carpeting.
    2. If extent of repair work warrants, make two or more visits as required.
    3. Include moving and replacing of furniture and other items as needed to complete the repairs.
    4. Work will be done during normal working hours, unless mutually agreed to otherwise.

END OF SECTION

**SECTION 09900 - PAINTING**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

1. Painting and finishing of all interior and exterior items of new construction, except as indicated otherwise.
  - a. Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other Sections of the Specifications.
  - b. Mechanical and Electrical Work: Include decorative field painting of new and existing bare and covered piping, ductwork, radiation covers, conduit, hanger rods, valve bodies, support angles, nuts, bolts, equipment and other components of the mechanical and electrical systems; in locations normally exposed to view in the finished work.
2. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
3. Paint all exposed surfaces within areas of new construction and renovation areas whether or not colors are designated in "Schedules", except where the natural finish of the material is specifically noted as a surface not to be painted. Where items or surfaces are not specifically mentioned, paint these the same as adjacent similar materials or areas. If color or finish is not designated, Architect will select these from standard colors available for the materials systems specified.
4. Work includes also painting and finishing of previously painted existing surfaces as shown on Drawings and Schedules; and painting and finishing of all previously painted surfaces that are damaged through any Work of this Project, (within and without the limits of work areas), to match existing adjacent existing undisturbed surfaces where such surfaces are to be exposed in the finished work.
5. Work includes repair/patching/repainting of existing wood window frames as indicated, and painting of new wood windows.

Phase II Renovations, State House

6. Includes chemical removal of paint from existing interior facebrick as indicated.
  7. Include repainting of existing gravel stop as indicated, and existing cupola (Drawing A-6).
- B. Painting Not Included: The following categories of work are not included as part of the field applied finish work, or are included in other Sections of these Specifications.
1. Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under the various Sections for structural steel, miscellaneous metal, hollow metal work, and similar items.
  2. Pre-Finished Items: Unless otherwise indicated, do not include painting when factory-finishing or installer finishing is specified for such items as (but not limited to), finished mechanical and electrical equipment including light fixtures, switchgear and distribution cabinets, laminate, carpet and acoustic materials.
    - a. Refer to Drawings and Specifications for all work under this Contract to determine extent of pre-finished items.
  3. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, such as spaces above suspended ceilings, furred areas, duct chases and shaft spaces.
    - a. Painting behind registers, grilles and the like *is* included where such surfaces are visible.
  4. Finished Metal Surfaces: Metal surfaces of stainless steel and non-ferrous finished materials will not require finish painting, unless otherwise indicated.
  5. Finish Hardware: Not to be field painted, except for factory primed surfaces or items scheduled to be painted. (Refer to Hardware Schedule.)
  6. Operating Parts and Labels: Moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, , sensing devices, motor and fan shafts will not require finish painting, unless otherwise indicated.
    - a. Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.
  7. Exterior Masonry: To receive an acrylic emulsion finish as indicated; specified under SECTION 07176 - ACRYLIC EMULSION MASONRY FINISH.

- C. Finishing of Existing Facebrick:
  - 1. Refinishing of existing facebrick indicated to be stripped and given a natural finish is specified under SECTION 04200 - UNIT MASONRY.
  - 2. Refinishing of facebrick indicated to be painted is included under this SECTION 09900.
- D. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be Affected by any Alternates if accepted.
- E. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Manufacturer's Instructions: All instructions and/or recommendations of the painting materials manufacturer(s) regarding storage, handling, mixing, thinning, surface preparation, application, thicknesses, curing, protection, and all other aspects of painting work, apply and shall be followed explicitly unless otherwise specified.
- C. Manufacturer's Data: For information only, (no action required by Architect unless requested in writing) submit 2 copies of manufacturer's technical information including paint label analysis and application instructions for each material proposed for use. Transmit a copy of each manufacturer's instructions to the paint applicator.
- D. Samples: Submit samples for Architect's review of color and texture only. Compliance with all other requirements is the exclusive responsibility of the Contractor. Provide a listing of the material and application for each coat of each finish sample.
  - 1. Submit manufacturer's standard Architect Selection Manual with 8 By 10 sticky back samples of full range of colors.
- E. Maintenance Material: Furnish to Owner surplus paint for maintenance purposes in original sealed containers, clearly marked as to contents and color.
  - 1. Quantity: 5 percent of each type of paint product and color used on Project.



1.04 FIELD SAMPLE AREAS:

- A. For each separate type of paint finish provide small test area to indicate color, texture, and sheen to be expected.
  - 1. Test areas shall be at least 10 sq ft of surface area, with permanent lighting facilities in place or simulated.
  - 2. Provide at interior walls as directed.
- B. Provide sample areas for wood with stain/natural finish.
  - 1. Include wood doors and door trim.
- C. Test areas shall be full-coat finish samples, with all undercoating materials included.
- D. After approval, test areas shall remain as standard of quality for painting of similar surfaces in Project.

1.05 DELIVERY AND STORAGE:

- A. Deliver all materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label, and the following information:
  - 1. Name or title of material
  - 2. Fed. spec. number or other reference standard, if applicable.
  - 3. Manufacturer's stock number and date of manufacturer.
  - 4. Manufacturer's name.
  - 5. Contents by volume, for major pigment and vehicle constituents.
  - 6. Thinning instructions.
  - 7. Application instructions..
  - 8. Color name and number.
- B. Store all materials, supplies, and equipment in a safe, convenient central location as approved by Architect and Owner. Mix and dispense all materials within such area. Keep all areas accessible, clean and free from oily rags, waste and other debris. Store oily rags only in approved metal containers with covers.
- C. Provide suitable protection to prevent damage to floors, walls ceilings and other surfaces in such areas.
- D. Comply with all governing regulations, including but not limited to those of the local fire department and Owner's insurance underwriters.

- E. Dispose of surplus paint products and other materials off site only in lawful manner. **DO NOT** dispose of any paint products by pouring in any plumbing fixtures or on the ground, or elsewhere on site in any manner.

1.6 JOB CONDITIONS:

- A. Apply water-base paints only when the temperature of surfaces to be painted and the surrounding air temperatures are between 50 deg. F and 90 deg. F unless otherwise permitted by the paint manufacturer's printed instructions.
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and the surrounding air temperatures are between 45 deg. F and 95 deg. F unless otherwise permitted by the paint manufacturer's printed instructions.
- C. Do not apply paint in snow, rain, fog or mist; or when the relative humidity exceeds 80 percent; or to damp or wet surfaces; unless otherwise permitted by the paint manufacturer's printed instructions.
- D. Painting may be continued during inclement weather only if the areas and surfaces to be painted are enclosed and heated within the temperature limits specified by the paint manufacturer during application and drying periods.

1.07 COLORS AND SAMPLES:

- A. Before ordering materials, submit names of proposed manufacturers of paint and other products for Architect's approval. List brand or trade names for each different type of paint product.
- B. Architect will furnish preliminary sample color chips and/or manufacturer's code numbers for all exterior and interior colors to be provided for the Work, along with a chart indicating the color required for each painted surface.
- C. Architect shall not be restricted to the approved manufacturer's standard color range in selecting the color schedule. Deep accent colors may be required. Finish paint colors used may be standard or special and shall be as selected by Architect.

PART 2 - PRODUCTS

2.01 GENERAL:

- A. Colors and Pigments: Provide pure, non-fading, limeproof colors and pigments applicable types of suit substrates and service indicated.
  - 1. Lead content in pigment, if any, is limited to contain not more than 0.5 percent lead, as lead metal based on the total nonvolatile (dry-film) of paint by weight. This limitation is extended to interior surfaces and those exterior surfaces, such as stairs, decks, porches, railings, windows, and doors which are readily accessible to children under seven years of age.

2. Colors for priming and underbody coats shall be lighter in color than succeeding coats.

B. Paint Coordination: Provide finish coats which are compatible with prime paints used. Review other Sections of these Specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information on characteristics of finish materials proposed for use, to ensure compatible prime coats are used. Provide barrier coats over incompatible primers or remove and reprime as required. Notify Architect in writing of any anticipated problems using specified coating systems with substrates primed by others.

2.02 PAINT MANUFACTURER AND QUALITY:

A. Acceptable Manufacturers: Prime paint materials shall be top line products as made by following; or equal as approved in advance by Architect.

1. Sherwin Williams.
2. Pratt & Lambert.
3. PPG.
4. Benjamin Moore.
5. Devoe.
6. Glidden.

B. Provide the best quality grade of the various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying the manufacturer's identification as a standard, best-grade product will not be acceptable.

1. Proprietary names used to designate colors or materials are not intended to imply that products of the named manufacturers are required to the exclusion of equivalent products of other manufacturers.
  - a. Materials not specified, including products of manufacturers specified as approved but of different catalog number or other designation, must receive prior approval from Architect.
2. Manufacturer's products which comply with the coating qualitative requirements of applicable Federal Specifications, yet differ in quantitative requirements, may be considered for use only when acceptable to Architect. Furnish material data and manufacturer's certificate of performance to Architect for any proposed substitutions.

C. Provide undercoat paint produced by the same manufacturer as the finish coats. Use only thinners approved by the paint manufacturer, and use only within recommended limits.

2.03 CHEMICAL PAINT REMOVERS:

- A. Provide material, subject to approval of Architect, formulated and recommended for removal of particular paint surfaces for particular substrate.

PART 3 - EXECUTION

3.01 INSPECTION:

- A. Applicator must examine the areas and conditions under which painting work is to be applied and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Applicator.
- B. Starting of painting work will be construed as the Applicator's acceptance of the surfaces and conditions within any particular area.
- C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to the formation of a durable paint film.

3.02 PROTECTION OF OCCUPANTS AND PUBLIC:

- A. Note that much of the painting work will be in corridors and other spaces open to the building occupants and the public.
- B. Take all necessary measures to prevent damage and annoyance through painting operations.
- C. Where feasible, and subject to approval by Owner's security and maintenance departments, separate painting areas by ropes or similar temporary barricades. Do not block off emergency egresses.
- D. Place adequate number of clearly legible "WET PAINT" signs around all newly painted areas; remove promptly as necessity ceases to exist.

3.03 SURFACE PREPARATION:

- A. General:
  - 1. Perform preparation and cleaning procedures in strict accordance with the paint manufacturer's instructions and as herein specified, for each particular substrate condition.
  - 2. Remove all hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for the complete painting of the items and adjacent surfaces. Following completion of painting of each space or area, reinstall the removed items by workmen skilled in the trades involved.

3. Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program the cleaning and painting so that contaminants from the cleaning process will not fall onto wet, newly-painted surfaces.
- B. Cementitious Materials, General: Determine the alkalinity and moisture content of the surfaces to be painted by performing appropriate tests. If the surfaces are found to be sufficiently alkaline to cause blistering and burning of the finish paint, correct this condition before application of paint. Do not paint over surfaces where the moisture content exceeds that permitted in the manufacturer's printed directions.
- C. Plaster (Including Skim Coat Plaster):
1. Cut out scratches, cracks and abrasions; undercut if cracks are large. Fill with approved spackling plaster or spackling compound; bring flush with adjoining surface. When dry sand smooth and seal before applying priming coat.
  2. Do not apply paint to plaster containing more than 15 percent moisture content. Touch up suction spots after first coat and before applying second coat.
- D. Wood:
1. Clean wood surfaces to be painted of all dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer, before application of the priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sandpaper smooth when dried.
  2. Prime or seal wood required to be job-painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, paneling, etc.
- E. Ferrous Metals:
1. Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
  2. Touch-up shop applied prime coats wherever damaged or bare, where required by other Sections of these Specifications. Clean and touch-up with the same type shop primer.
- F. Galvanized Surfaces: Clean free of oil and surface contaminants with an acceptable non-petroleum based solvent.

G. Previously Painted Surfaces:

1. Paint existing surfaces as called for on Drawings and schedules, as well as painting to match all existing painted surfaces damaged through any work of Contract.
2. Remove completely any peeling, alligatored, or otherwise defective previously applied paint surfaces. Fill smooth and sand to at least 12 in. beyond defective area; or otherwise to provide, in opinion of Architect, a smooth, sound surface that will not be subject to further peeling or other degradation.
3. Clean thoroughly all existing surfaces prior to painting; remove all traces of grease, wax, oil, dust, dirt, or other foreign matter. Sand to remove any gloss, and make smooth prior to application of new paint materials.
4. Prepare window frames following removal of sash. Strip all existing paint. Fill holes, breaks, and similar defects with exterior spackling compound, sand smooth.
5. Where paint removal is indicated or required, use approved chemical paint removers. Follow strictly all recommendations of manufacturer and comply with all environmental protection regulations.

H. Concrete:

1. Refer to Division 3 Sections for finish requirements by Concrete Installer. In general, they require: formwork fins, similar protrusions such as mortar splatters, removed to flush with surface; honeycombs, holes and similar voids properly filled/patched; surface rubbed as required and made smooth for application of paint finish.
2. Ascertain that all traces of form release agents, membrane forming curing compounds, wax, grease, oil, or other foreign materials have been properly removed. At minimum, provide one thorough washing with 2 lbs of trisodium phosphate to each gallon of hot (160 deg. F) water, repeat as needed and rinse thoroughly.
3. If required to remove efflorescence and other loosely bound foreign materials, provide washing with a commercial solution of muriatic acid. Use extreme care in application. Properly mask and otherwise protect adjacent finished surfaces. To maximum extent possible schedule acid cleaning operations prior to installation of other finishing work.
  - a. Remove residual dust and dirt with high pressure hose, allow surface to dry until damp but not wet.
  - b. Apply acid solution carefully and uniformly to concrete by low pressure spray equipment. Coordinate application with rinsing operations so that acid is not completely spent or allowed to dry out before surface is flushed with fresh water. Start rinsing operation immediately as bubbling action of acid begins to subside.

- c. Rinse thoroughly, using high pressure hoses while scrubbing with stiff fiber brooms to remove salt formations and loose material.
  - d. Test surface with pH paper and continue rinsing operations until a pH of 7 or higher is reached.
  - e. Remove excess water from adjacent floors by rubber squeegees, rinse thoroughly, and remove excess water once again.
4. Roughen surface slightly as required to remove any glaze on the concrete, by acid cleaning as specified above, or by scouring with approved abrasives.

D. Masonry:

1. Refer to Division 4 Sections for finish requirements by the Masonry Installer. In general, they call for dry brushing of CMU at the end of each day's work and after final pointing to remove mortar spots and droppings.
2. Ascertain that all traces of efflorescence, oil, grease, dust, or other foreign matter have been properly removed prior to painting. If required, arrange with Masonry Installer to provide washing with trisodium phosphate and/or acid solution as specified for concrete.

3.04 MATERIALS PREPARATION:

- A. Mix and prepare painting materials in accordance with manufacturer's directions.
- B. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing, and application of paint in a clean condition, free of foreign materials and residue.
- C. Stir materials before application to produce a mixture of uniform density, and stir as required during the application of the materials. Do not stir surface film into the material. Remove the film and if necessary, strain the material before using.

3.05 APPLICATION:

- A. General:
  1. Apply paint in accordance with the manufacturer's directions. Use applicators and techniques best suited for the substrate and type of material being applied.
  2. Apply additional coats when undercoats, stains, or other conditions show through the final coat of paint, until the paint film is of uniform finish, color and appearance. Give special attention to insure that all surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

3. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Paint surfaces behind permanently-fixed equipment or furniture with prime coat only before final installation of equipment.
4. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.
5. Paint the back sides of access panels, and removable or hinged covers to match the exposed surfaces. Final coat may be omitted where three-coat work is scheduled on exposed surfaces.
6. Finish doors on tops, bottoms, and side edges the same as the exterior faces, unless otherwise indicated. Final coat may be omitted on top and bottom surfaces on interior work, where three-coat work is scheduled.
7. Sand lightly between each succeeding enamel or varnish coat.
8. Provide undercoat materials of slightly different color than succeeding coat, in order to assure credit for each coat.

B. Scheduling of Painting:

1. Apply the first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
2. Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

C. Minimum Coating Thickness: Apply each material at not less than the manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

D. Prime Coats:

1. Apply a prime coat of material which is required to be painted or finished, and which has not been prime coated by others.
2. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.

E. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.



## Phase II Renovations, State House

- F. Completed Work: Match approved samples for color, texture and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.
- G. Previously Painted Surfaces: The prime or first coat scheduled may be omitted at applications over previously painted surfaces where the existing paint is in good, sound condition. Spot prime all bare surfaces.
- H. Paint Removal: Where paint is indicated to be removed, strip and remove all paint with approved chemical paint remover methods.
  - 1. Sandblasting *will not* be permitted.
  - 2. Before proceeding test materials and removal methods on small inconspicuous area of each type of substrate material. Notify Architect and obtain approval before proceeding.
  - 3. Take all necessary precautions to prevent damage to other surfaces. Where feasible schedule removal operations prior to performance of other finish work in area; if not adequately protect previously finished and existing surfaces.
  - 4. Comply with all applicable environmental regulations and all recommendations of chemical remover manufacturers.

### 3.06 CLEAN-UP AND PROTECTION:

#### A. Clean-Up:

- 1. During the progress of the work, remove from the site all discarded paint materials, rubbish, cans and rags at the end of each work day.
- 2. Upon completion of painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

#### B. Protection:

- 1. Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
- 2. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provide by others for protection of their work, after completion of painting operations.
- 3. At the completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

3.07 PAINTING SCHEDULE:

A. General:

1. Following schedule shall not be considered as entirely inclusive, but shall be construed as general guide for complete painting, finishing of building, including closet spaces, recesses, returns, reveals, soffits, haunches and the like forming part of particular surface, room, or face.
2. Where items or surfaces are not specifically mentioned, paint these the same as adjacent or similar materials or areas.
3. Number of coats scheduled are minimum acceptable. Apply additional coats when substrate, undercoats, stains, or other conditions show through the final coat of paint (including dark colored substrate materials such as MR drywall), until the finished coat is of uniform finish, color, and texture.
4. Each coat must be inspected and approved by Architect before application of succeeding coats.
  - a. NOTE WELL: Arrange with Architect procedures for regular inspection of all coats of paint prior to application of following. Application of coats without the required inspection and approval by Architect, or positive indication by Architect that such inspection will not be required, may result in Applicator being required to apply additional coat(s) at no additional cost to Owner.

B. Exterior Surfaces:

1. Louvers, Fume Hoods, Exhaust Fans, Doors, Frames, Other Ferrous Metal (Other than Stainless Steel): Tnemec Gloss Enamel System Over Primed Surface:
  - Touch-up: Tnemec Primer 4-Color.
  - 1st Coat: Tnemec-Gloss 2-Color, 1.5 - 2.5 mil film thickness.
  - 2nd Coat: Tnemec-Gloss 2-Color, 1.5 - 2.5 mil film thickness.
  - Total Field Thickness: 3.0 - 5.0 mils.
2. Wood: Pratt & Lambert Alkyd Gloss System; Spec. No. 7.2, Modified:
  - 1st Coat: P & L Permalize Exterior Primer.
    - NOTE: Apply to all surfaces prior to installation.
  - 2nd & 3rd Coats: P & L Effecto Enamel.
    - NOTE: Apply primer to wood window frames prior to installation of new sash.

3. Existing gravel stop: As indicated (Drawing A-6).

C. Interior Surfaces:

1. Gypsum Drywall Ceilings: Latex Flat System; Pratt & Lambert Spec. No. 114.1:

2 Coats P & L Vapex Flat Wall Finish.

2. Gypsum Drywall: Acrylic Semi-Gloss (Eggshell); Latex-Enamel Satin System: Pratt & Lambert Spec. No. 114.5 (Modified):

1 Coat P & L P & L Vinyl Acrylic Wall Primer, Stippled. (Modify as recommended by manufacturer for skim coat and existing plaster.)

2 Coats P & L Velvety Latex Enamel.

3. Plaster and Skim Coat Plaster Walls and Ceilings (New and Existing): As specified for gypsum drywall, except modify primer systems as recommended by paint manufacturer for particular substrate.

4. Concrete Masonry Units, Paint: Latex-Enamel/Filled, Satin System; Pratt & Lambert Spec. No. 118.4 (Modified):

1 Coat Primafil 200, applied at rate of 50 sq ft (max.) per U.S. gallon.

2 Coats Aqua-Satin.

5. Ferrous Metals (Except as Otherwise Scheduled): Alkyd-Enamel, Semi-gloss system; Pratt & Lambert Spec. No. 123.3:

1 Coat P & L Interior Trim Primer

1 Coat P & L Cellu-Tone Enamel (2 coats on railings, doors and door frames)

6. Wood for Transparent (Natural) Finish: Alkyd Natural-Stain-Satin-Dull system: Match existing adjacent woodwork.

**NOTE:** Unless otherwise indicated, or required to match existing adjacent wood finishes, provide transparent finish for all wood in main building (outside of Press Corps Facility.)

7. Wood for Opaque (Paint) Finish: Alkyd-Enamel Low Eggshell System; Pratt & Lambert Spec. No. 143.3:

1 Coat P & L Interior Trim Primer.

2 Coats Vitralite Enamel.

**NOTE:** Unless otherwise indicated, provide opaque finish for all wood in Press Corps Facility.

8. Existing Facebrick and Granite: Where indicated (Press Corps Facility), remove existing paint by approved chemical paint stripping method.

END OF SECTION



**SECTION 10162 - TOILET COMPARTMENTS**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

- 1. Baked enamel finished metal toilet compartment as indicated.
- 2. Baked enamel finished metal urinal screens as indicated.

- B. Related Work Specified Elsewhere:

- 1. Toilet accessories (except as specified herein): SECTION 10800.
- 2. Concealed reinforcement in walls: SECTION 04200 - UNIT MASONRY and SECTION 09250 - GYPSUM DRYWALL.

- C. Alternates: Refer to SECTION 0101 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 QUALITY ASSURANCE; SUBMITTALS:**

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE AND SUBMITTALS.

- B. Coordination: Furnish inserts and anchorages which must be built into other work for installation of toilet compartments and related work; coordinate delivery with other work to avoid delay.

- C. Submittals: Submit following:

- 1. Manufacturer's product data.

2. Installation instructions.
3. Shop Drawings, showing fabrication and erection details where not fully indicated on product data.
4. Samples: 6 in. square samples of each color and finish on same substrate to be used in work, for color verification after selections have been made.
  - a. Submit, if directed by Architect, full range of color samples for each type of unit compartment required.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURER/PRODUCTS:

- A. Baked Enamel Units: Subject to compliance with requirements, provide baked enamel units as manufactured by one of the following:
  1. Global Steel Products Corp.
  2. Knickerbocker Partition Corp.
  3. Metpar Steel Products Corp.
  4. The Mills Company
  5. Sanymetal Products Co.
  6. Flush-Metal Partition Corp.

### 2.02 MATERIALS AND CONSTRUCTION:

- A. Toilet Compartment Type: Metal, floor-braced type.
  1. Panels and Doors: 1-in thick.
  2. Pilasters: 1-1/4 in thick.
  3. Product: Subject to compliance with requirements provide Global "Embassy"; or approved equal.
- B. Urinal Screen Type: Metal, wall supported type.
  1. Dimensions: Provide as indicated; or if not indicated 58 inch high by 18 in deep panels, with bottom edge set 12 inches from floor.
  2. Thicknesses: Same as toilet compartments.
  3. Product: Subject to compliance with requirements provide Global Wall-Mounted ("Government") type (modified as to height); or approved equal.

- C. Colors: Manufacturer's standard colors, as indicated or, as selected by Architect.
  - 1. Architect may select up to 3 colors for Project.
- D. Sheet Steel: ASTM A 591, Class C, galvanized-bonderized, of following minimum thicknesses:
  - 1. Finish for Sheet Steel: Baked enamel finish, manufacturer's standard.
  - 2. Pilasters : 18 gage.
  - 3. Panels and Screens: 20 gage.
  - 4. Doors: 22 gage.
  - 5. Concealed Reinforcement for Anchorages: 12 gage, hot-dipped galvanized.
  - 6. Concealed Reinforcement for Tapping: 14 gage, hot-dipped galvanized.
  - 7. Core Construction for Steel Units: Manufacturer's standard sound-deadening, honeycomb, impregnated Kraft paper core.
- E. Hardware: Provide manufacturer's standard hardware, suitable for weight of units and complying with following:
  - 1. Hinges: Either surface-mounted or cutout inset type, adjustable to hold door open at any angle up to 90 deg.
    - a. Provide emergency release feature for all doors.
    - b. Provide outswinging for handicapped units as indicated.
  - 2. Latch and Keeper: Recessed latch unit, with combination rubber-faced door strike and keepers.
  - 3. Coat Hook and Bumper: Manufacturer's standard unit, rubber-tipped.
  - 4. Door Pulls: Manufacturer's standard.
- H. Anchorages and Accessories:
  - 1. Brackets: *Provide only full-length continuous brackets, stainless steel or non-ferrous metal.*
  - 2. Concealed Reinforcement for Anchorages: 12 gage, hot-dipped galvanized.
  - 3. Concealed Reinforcement for Tapping: 14 gage, hot-dipped galvanized.



## Phase II Renovations, State House

4. Pilaster Anchorage (Floor-Braced): Heavy-duty type, hot-dipped galvanized, secured with not lighter than 3/8 inch expansion bolts extending minimum of 2 inches into *structural* floor (in addition to any fill or fill finish); designed for anchoring of unit to floor without intermediate supports and for leveling of pilasters.
5. Pilaster Shoes: AISI Type 302/304, 20 ga. stainless steel, 3" high, finish to match hardware. Furnish shoes at each pilaster.
6. Stirrup Brackets: Manufacturer's standard, non-ferrous alloy with satin chrome finish.
7. Anchorages and Fasteners: Manufacturer's standard theft-resistant exposed fasteners, finished to match hardware.
  - a. *NOTE*: Provide only one-way mounting screws and bolts for all exposed locations.
8. Cutouts, Reinforcement: Provide cut-outs, drilled holes, and internal reinforcement to receive partition mounted hardware, accessories, grab bars, and other work indicated.
9. Other Hardware and Accessories: Manufacturer's standard, heavy-duty operating hardware and accessories, non-ferrous cast alloy with satin chrome finish or No. 4 finish stainless steel.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION:

- A. General: Install units rigid, straight, plumb and level in accordance with manufacturer's printed instructions. Set units with not more than 1/2" between pilasters and panels, and not more than 1" clearances between panels and walls.
- B. Hardware Adjustments: Adjust and lubricate hardware for proper operation after installation.
  1. Set hinges on in-swing doors to hold open approximately 30 deg. from the closed position when unlatched.
  2. Set hinges on out-swing doors to return to fully closed position.

#### 3.02 CLEANING AND FINAL ADJUSTMENTS:

- A. Perform final adjustments to leveling devices, door hardware, and other operating parts. Clean exposed surfaces and touch up minor finish imperfections using materials and methods recommended by partition manufacturer.
- B. Replace damaged units which cannot be satisfactorily field repaired, as directed by Architect.

END OF SECTION

**SECTION 10440 - GRAPHICS (CASH ALLOWANCE)**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:
  - 1. Numbers and/or names on doors.
  - 2. Directional and other signs on walls.
  - 3. Graphics to comply with the Use of Buildings by Handicapped regulations.
  - 4. Special painted signs and graphics as designated by Architect.
  - 6. Other interior and exterior signage and graphics as directed by Architect, except as indicated to be under other Sections.
- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.
- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.
  - 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

**1.03 CASH ALLOWANCE:**

- A. The Contract Price shall include the Cash Allowance as specified under SECTION 01010 - SUMMARY OF WORK, for the furnishing and installation of signage and graphics as selected by Architect at a later date.
- B. The Cash Allowance shall be the net amount available for purchase, delivery and installation of material as selected, and shall not include charges for the following, which shall be deemed to have been included in the Contract Price exclusive of the Cash Allowance:

1. Contractor's charges for overhead and profit.
  2. Losses or damages to the materials after delivery.
  - C. Contractor shall award one or more subcontracts for the furnishing and installing of work specified herein, as directed or approved by the Owner or Architect. Refer to SECTION 01010 for additional requirements covering Cash Allowances.
- 1.05 QUALITY ASSURANCE; SUBMITTALS:
- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
  - B. Product Data: Submit complete manufacturers product data on all materials.
  - C. Samples: Submit samples as directed by Architect.
  - D. Shop Drawings: Submit complete layout of all signage and graphics items, including proposed locations for approval by Architect.
    1. Include complete schedule of signage and graphics items.

PART 2 - PRODUCTS

- 2.01 GENERAL: Materials will be selected by Architect at a later date.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Locations: Locate as indicated or directed by Architect. If not indicated or directed by Architect, indicate proposed locations on shop drawing submittals.
- B. Install in accordance with manufacturers recommendations, if not otherwise indicated or directed by Architect.

END OF SECTION

SECTION 10520 - PORTABLE FIRE EXTINGUISHERS/CABINETS/ACCESSORIES

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and install the following:

- 1. Definition: "Fire extinguishers" in this Section refers to units which can be hand-carried as opposed to those which are equipped with wheels or to fixed fire extinguishing systems, unless otherwise indicated.

- 2. Type of products in this Section include:

- a. Fire extinguishers.
    - b. Mounting brackets.
    - c. Fire extinguisher cabinets.

- B. Related Work Specified Elsewhere:

- 1. Masonry walls: SECTION 04200 - UNIT MASONRY.
  - 2. Gypsum drywall partitions: SECTION 09250 - GYPSUM DRYWALL.
  - 3. Finish painting of cabinet exteriors: DIVISION 9.
  - 4. Fixed fire protection systems: DIVISION 15.

- C. Alternates: Refer to SECTION 01100 - ALTERNATES, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE; SUBMITTALS

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Manufacturer: Provide portable fire extinguishers, cabinets, and accessories by one manufacturer, unless otherwise acceptable to Architect.
- C. UL-Listed Products: Provide new portable fire extinguishers which are UL-listed and bear UL "Listing Mark" for type, rating, and classification of extinguisher indicated.
- D. Product Data: Submit manufacturer's technical data and installation instructions for all portable fire extinguishers required. For fire extinguisher cabinets include roughing-in dimensions, and details showing mounting methods, relationships to surrounding construction, door hardware, cabinet type and materials, trim style and door construction, style and materials. Where color selections by Architect is required include color charts showing full range of manufacturer's standard colors and designs available.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

- A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
  - 1. J.L. Industries
  - 2. Larsen's Mfg. Co.
  - 3. Muckle Manufacturing, Division of Technico, Inc.
  - 4. Profile International, Inc.

2.02 FIRE EXTINGUISHERS:

- A. General: Provide fire extinguishers for each extinguisher cabinet and other locations indicated, in colors and finishes selected by Architect from manufacturer's standard which comply with requirements of governing authorities.
  - 1. Fill and service extinguishers to comply with requirements of governing authorities and manufacturer's requirement.
  - 2. Abbreviations indicated below are to identify extinguisher types relate to UL classification and rating system and not, necessarily, to type and amount of extinguishing material contained in extinguisher.

- B. Multi-Purpose Dry Chemical Type (2A-10BC-FE): UL-rated 2-A:10: B:C, 5 lb. nominal capacity, in enameled steel container, for Class A, Class B and Class C fires.
    - 1. Provide for all extinguishers except as otherwise specified or indicated.
  - C. Halon Types (10BC-FE): UL-rated 10-B:C, 5 lb. nominal capacity, in enameled steel container with pressure indicating gage, for Class B and Class C fires.
    - 1. Provide where indicated.
- 2.03 MOUNTING BRACKETS:
- A. Provide manufacturer's standard bracket designed to prevent accidental dislodgment of extinguisher, of proper size for type and capacity of extinguisher indicated, in manufacturer's standard plated finish.
  - B. Provide brackets for extinguishers located within and without of cabinets.
- 2.04 FIRE EXTINGUISHER CABINETS:
- A. General: Provide fire extinguisher cabinets where indicated, of suitable size for housing fire extinguishers of types and capacities indicated.
  - B. Construction: Manufacturer's standard prime painted steel box, with trim, frame, door and hardware to suit cabinet type, trim style, and door style indicated. Weld all joints and grind smooth. Miter and weld perimeter door frames.
  - C. Cabinet Type: Suitable for mounting conditions indicated, of the following types:
    - 1. Recessed: Cabinet box (tub) fully recessed in walls of sufficient depth to suit style of trim indicated.
      - a. Provide recessed type where wall/partition conditions allow.
    - 2. Semi-Recessed: Cabinet box (tub) partially recessed in walls of shallow depth.
      - a. Provide semi-recessed where wall/partition conditions will not allow full-recessed installation, or when directed by Architect.
    - 3. Surface-Mounted: Cabinet box (tub) fully exposed and mounted directly on wall.
      - a. Provide surface-mounted only where specifically indicated on Drawings, or where wall/partition conditions will not allow semi-recessed installation. Obtain approval of Architect in advance if not indicated, and offer appropriate credit.

- D. Trim Style: Fabricate trim in one piece with corners mitered, welded and ground smooth.
  - E. Door Material and Construction: Manufacturer's standard door construction, of material indicated, coordinated with cabinet types and trim styles selected.
    - 1. Steel: Manufacturer's standard flush, hollow steel door construction with tubular stiles and rails.
  - F. Door Style: Manufacturer's standard design as indicated below and on Drawings.
    - 1. Full-Glass Panel: Float glass, 1/8 in. thick, unless otherwise indicated.
  - G. Door Hardware: Provide manufacturer's standard door operating hardware of proper type for cabinet type, trim style, and door material and style indicated. Provide either lever handle with cam action latch, or door pull, exposed or concealed, and friction latch. Provide concealed or continuous type hinge permitting door to open 180 deg.
- 2.05 FACTORY FINISHING OF FIRE EXTINGUISHER CABINETS:
- A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations except as otherwise indicated. Apply finishes in factory after products are assembled. Protect cabinets with plastic or paper covering, prior to shipment.
  - B. Factory-Primed Finish: Provide manufacturer's standard prime coat, suitable for application of finish coat in field.
    - 1. Manufacturer's standard light colored baked enamel finishes will be acceptable, provided it will accommodate application of finish coat in field without further treatment.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION:

- A. Install items included in this section in locations as directed, with tops of cabinets, or tops of bracket mounted extinguishers, 3 feet-8 inches above floor unless otherwise directed.
  - 1. Securely fasten mounting brackets and fire extinguisher cabinets to structure, square and plumb, to comply with manufacturer's instructions.
  - 2. Where exact location of cabinets and bracket-mounted fire extinguishers is not indicated, locate as directed by Architect.

3.02 IDENTIFICATION:

- A. Identify fire extinguisher in cabinet with lettering spelling "FIRE EXTINGUISHER" painted on door by silk-screen process. Provide lettering on door as indicated, or if not indicated, as selected by Architect from manufacturer's standard letter sizes, styles, colors and layouts.
- B. Identify bracket-mounted extinguishers with red letter decals spelling "FIRE EXTINGUISHER" applied to wall surface. Letter size, style and location as selected by Architect.

END OF SECTION





SECTION 10800 - TOILET ACCESSORIES

PART 1 - GENERAL

1.01 GENERAL PROVISIONS:

- A. The CONDITIONS OF THE CONTRACT, and all Sections of Division 1 are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK:

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:

- 1. Toilet accessories as scheduled and indicated, including in rooms or spaces other than toilet rooms.

- B. Furnish Only: Furnish and deliver to job site following items, for installation under designated Sections:

- 1. Concealed support plates for grab bars mounted in new drywall partitions: SECTION 09250 - GYPSUM DRYWALL.

- C. Related Work Specified Elsewhere:

- 1. Providing concealed support plates for toilet accessories mounted in drywall partitions, except as indicated otherwise herein: SECTION 09250 - GYPSUM DRYWALL.

- 2. Ceramic Mosaic Wall Tile: SECTION 09300 - TILE WORK.

- 3. Full width mirrors: SECTION 08800 - GLASS AND GLAZING.

- 4. Field wiring and electrical boxes for electric hand dryers: DIVISION 16.

- C. Alternates: Refer to SECTION 01010 - SUMMARY OF WORK, to determine extent, if any, work of this Section will be affected by any Alternates if accepted.

- D. Alteration Work: Unless indicated otherwise, perform all work normally included under this Trade Section necessary for the removal/alteration/relocation of existing work and for the joining of new work to existing. Unless indicated otherwise, provide work to match existing and equal to quality of new work as specified under this Section, and as approved by Architect.

- 1. Refer to SECTION 01046 - REMOVALS, ALTERATIONS, CUTTING AND PATCHING; GENERAL, and SECTION 02052 - SELECTIVE DEMOLITION AND REMOVALS, for additional requirements.

1.03 QUALITY ASSURANCE:

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.
- B. Inserts, Anchorage, and Concealed Reinforcement:
  - 1. Furnish inserts which must be set in concrete or built into masonry.
  - 2. Furnish concealed reinforcing strips, where specified herein, for items mounted on gypsum drywall partitions.
  - 3. Coordinate delivery, and necessary submittals, with other work to avoid delay in the work.
  - 4. Provide expansion bolts, toggle bolts, and other fasteners as required for proper installation.
- C. Products, General:
  - 1. Provide products of the same manufacturer for each type of accessory unit and for units exposed in the same areas, unless otherwise acceptable to the Architect.
  - 2. Stamped names or labels on exposed faces of units will not be permitted, except where otherwise indicated.
  - 3. Provide locks where indicated, with the same keying for each type of accessory units in the project wherever possible. Furnish two keys for each lock.
- D. Manufacturer's Data: For information only, submit 2 copies of manufacturer's technical data and installation instructions for each toilet accessory. Transmit copies of installation instructions to the Installer.
- E. Samples: When requested, submit full-size samples of units to Architect for review of design and operation. Acceptable samples will be returned and may be used in the work. Compliance with all other requirements is the exclusive responsibility of the Contractor.
- F. Setting Drawings. Submit setting drawings, templates, instructions, and directions for installation of anchorage devices in other work.
  - 1. Confirm and coordinate clearances required around lavatories, water closets and other plumbing fixtures, other related items.
  - 2. Confirm and coordinate wall/partition thickness for recessed accessory items, location of metal studs and concealed reinforcing for installation of recessed and surface mounted items.
- G. Guarantee: Submit specified guarantee on glass mirror silvering.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Stainless Steel: AISI, Type 302/304, with polished No. 4 finish, unless otherwise indicated.
- B. Brass: Cast or forged quality alloy, Fed. Spec. WW-P-541.
- C. Sheet Steel: Cold rolled, commercial quality, ASTM A366. Surface preparation and metal pretreatment as required for applied finish.
- D. Galvanized Steel Sheet: ASTM A527, G60.
- E. Chromium Plating: Nickel and chromium electro-deposited on metal, ASTM B456, Type SC 2.
- F. Baked Enamel Finish: Factory-applied, color as selected by Architect, baked acrylic enamel coating.
- G. Mirror Glass: Fed. Spec. DD-G-451, Type I, Class 1, Quality q2, 1/4 in. thick, with silver coating, copper protective coating, and non-metallic paint coating.
  - 1. Provide manufacturer's standard 10-year guarantee against silvering spoilage.
- H. Plastic Laminate: 5/16 in. thick solid high pressure laminated plastic with melamine finish.

2.02 TOILET ACCESSORIES, GENERAL:

- A. General:
  - 1. Provide products of single manufacturer, unless otherwise indicated or approved by the Architect.
  - 2. Keyed units shall have tumbler locks, keyed alike throughout except as indicated otherwise.
- B. Acceptable Manufacturers:
  - 1. Except as indicated otherwise, toilet accessory schedule is based upon catalog numbers of Bobrick, Inc., Brooklyn, New York.
  - 2. Products of following manufacturers, if equivalent in opinion of Architect, will be acceptable:
    - a. American Specialties, Inc., Yonkers, NY.
    - b. Architectural Metalcrafts Industries, Inc., Farmingdale, NY.
    - c. Watrous, Inc., Bensenville, IL.

- C. Catalog numbers listed are not necessarily all-inclusive. provide all fastenings, plates, and other accessories needed for a proper installation and to suit the particular wall construction each item is to be installed in, whether included in the catalog description or not.

2.03 ACCESSORY SCHEDULE:

- A. NOTE: Refer to Drawings for location of fixtures. Provide Bobrick items as scheduled below unless otherwise indicated on Drawings.
- B. Surface Mounted Toilet Tissue Dispenser: Dual-roll type, stainless steel construction, door with continuous piano hinge and lock to secure upper roll, molded propylene spindles, spare, top roll to drop automatically in place as bottom roll is used up.
  - 1. Provide each water closet: B-288.
- C. Counter and Lavatory Mounted Soap Dispensers: Concealed polyethylene globe, 16 ounce capacity; short spout; long shank; chrome plated brass body above countertop, stainless steel piston and spout; dispense liquid soap in lather form; operate with less than 5-pounds of force to comply with handicapped use requirements; vandal resistant; fill from top with special tool.
  - 1. Provide as shown: B-8231.
- D. Grab Bars: Stainless steel, 1-1/4 in. diameter, peened grip, concealed fasteners.
  - 1. Provide as shown: B-550 Series with 256 Series anchor plate in drywall partition installation.
- E. Recessed Napkin/Tampon Vendor: Stainless steel door with piano hinge, dispenses both feminine napkins and tampons, no brand name advertising, set for 5 cents, 10 cents, 25 cents, or Free operation as directed by Owner, separate tumbler locks and keys for door and coin operation.
  - 1. Provide as indicated: B-3502.
- F. Surface Mounted Sanitary Napkin Disposal: Stainless steel frame and doors, continuous piano hinges, single stainless steel receptacle.
  - 1. Provide each women's water closet: B-270.
- G. Custodian's Utility Shelf with Mop and Broom Holders: Stainless steel, with cam-type broom holders, rag hooks.
  - 1. Provide one at new janitors closet 342A: B-224 x 36.
- H. Recessed Paper Towel and Waste Disposal: Stainless steel, 400 C-Fold, 700 Multi-fold, or 1,000 single-fold paper towel capacity; removable stainless steel waste container locked into cabinet; waste container 8 in. deep flush with 10-1/2 gallon capacity.
  - 1. Provide as indicated: B-360.

- I. Warm Air Hand Dryers: Surface mounted cast aluminum with white painted cover. colors as selected.
  1. Provide as shown: B-709, 240 V, 1 phase.

PART 3 - EXECUTION

3.01 INSPECTION:

- A. Installer must examine the areas and conditions under which toilet accessories are to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
- B. Ascertain that all concealed supporting plates in drywall construction have been properly installed. Do not secure any accessories directly to unsupported gypsum wallboard panels.

3.02 INSTALLATION:

- A. Coordinate work closely with Ceramic Tile Installer.
- B. Use concealed fastenings wherever possible.
- C. Provide anchors, bolts, and other necessary anchorages, and attach accessories securely to walls and partitions in locations as shown or directed.
- D. Install concealed mounting devices and fasteners fabricated of the same material as the accessories or of galvanized steel, as recommended by manufacturer.
- E. Install exposed mounting devices and fasteners finished to match the accessories.
- F. Provide theft-resistant fasteners for all accessory mountings.
- G. Secure toilet room accessories in accordance with the manufacturer's instructions for each item and each type of substrate construction.

END OF SECTION

**SECTION 14210 - HANDICAP LIFT**

**PART 1 - GENERAL**

**1.01 GENERAL PROVISIONS:**

- A. The CONDITIONS OF THE CONTRACT and all Sections of Division 1 are hereby made a part of this Section.

**1.02 DESCRIPTION OF WORK:**

- A. Work Included: Provide labor, materials, and equipment necessary to complete the work of this Section, and without limiting the generality thereof furnish and include the following:

- 1. One stair lift installation as indicated, complete.
  - a. Include interlocks with door as indicated and to comply with Code requirements.
- 2. Include low voltage control wiring, other wiring not covered under DIVISION 16 - ELECTRICAL Sections.

- B. Related Work Specified Elsewhere: Refer to other Section of the Specifications for related work which is not work of this Section, including the following:

- 1. Concrete and masonry work: DIVISIONS 3 and 4.
- 2. Stair construction: SECTION 06100 - ROUGH CARPENTRY.
- 3. Metal handrails: SECTION 05500 - MISCELLANEOUS METALS.
- 4. Electrical power wiring to unit: DIVISION 16.

**1.03 QUALITY ASSURANCE; SUBMITTALS:**

- A. General: Comply with requirements of SECTION 01340 - QUALITY ASSURANCE; SUBMITTALS.

- B. Regulatory Requirements:

- 1. Elevator Code: Comply with latest amendments of Maine Elevator Code, Chapter 13 (hereinafter referred to as "Code").
- 2. NFPA Code: Comply with applicable NFPA codes, and specifically with sections relating to electrical work and elevators.
  - a. Comply with modifications as made by Maine Statutes and governing agencies.
- 3. Electrical Code:

- B. Product Data: Submit manufacturer's technical product data and installation instructions for each principal component or product, and include certified test reports on required testing. List and describe features of control system, performances, and operating characteristics.
  - C. Shop Drawings: Submit plans, elevations and details of car enclosures and hoistway entrances.
  - D. Maintenance Manuals: Submit bound manual, with operating and maintenance instructions, parts listing, recommended parts inventory listing, purchase source listing, for major and critical components, emergency instructions, and similar information.
  - E. Certificates and Permits: Provide Owner with copies of all inspection/acceptance certificates and operating permits as required by governing authorities to allow use of chair lift for purpose intended.
- 1.04 INITIAL MAINTENANCE AND WARRANTY:
- A. Maintenance: For a period of 12 months following date of substantial completion, provide full maintenance of wheelchair lift work on a daily-surveillance basis. Correct operational faults and restore/replace defective/deteriorated components and finishes. Lubricate operational units and supply expendable materials as required for proper operations and maintenance.
  - B. Provide manufacturer's standard warranty covering materials, including extended warranty for drive train, plus Installer's warranty for one year covering all labor, shipping and other costs required to correct any defects in materials or workmanship covered by the manufacturer's warranty.

## PART 2 - PRODUCTS

### 2.01 PRODUCT/MANUFACTURER:

- A. Product: Subject to compliance with requirements, provide Model GSL-2 Wheelchair Platform as made by Garavanta (Canada) Limited, P.O. Box L-1, Blaine, WA 98230; Telephone (604) 594-0422.

### 2.02 DESCRIPTION:

- A. Deck Size: As indicated and per Code.
  - 1. Provide with slip-resistant finish surface.
- B. Lift Height and Run: As indicated.
- C. Lift Speed: Manufacturer's standard for rise indicated.
- D. Motor: 1 HP at 1725 RPM, 208/220/240 Volt, single or three phase as selected by Architect, with solenoid disk brake.



1. Refer to Electrical Drawings and DIVISION 16 Sections for electrical characteristics.
- E. Control System and Safety Features:
1. Comply with Code requirements as minimum requirement.
  2. Low-voltage (24-volt) wiring.
  3. Station switch on unit wired to raise and lower unit,
  3. Key operated on/off switch, emergency stop button, directional control switch.
  4. Touch-sensitive ramps and plate to stop lift if obstruction is encountered, or if wheelchair rolls against ramps.
  5. Ramps to lock automatically in upright position, to open only at landings.
  6. Power operated ramp folding feature.
  7. Provide ambulatory seat option.
  8. Alarm bell to ring if emergency stop button is pressed, or if operation is prevented through obstruction or other causes.
  9. Provide side unload option.
- F. Capacity: Comply with Code but not less than 450 pounds, static load factor of 5.
- G. Platform: 1/4 in. checkered plate.
- H. Finish Color: As selected by Architect from manufacturer's standard available colors.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION:

- A. General: Comply with Code, shop drawings and with manufacturer's instructions and recommendations. Comply with National Electric Code (NFPA) for electrical work.

#### 3.02 TESTING:

- A. Before lift is placed in service, perform acceptance tests as required and recommended by Code and governing authorities. Review test results with Owner, and submit record copy.

END OF SECTION

SECTION 15000  
SUPPLEMENTAL MECHANICAL  
GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Conditions, Supplemental General Conditions and Instructions to Bidders shall apply to this work. Read these to be familiar with conditions related to the installation of the work.

1.02 WORK SHOWN ON DRAWINGS

- A. The drawings accompanying this specification, as a part thereof, are working drawings indicating the location and arrangement of the increments of the systems of this section of work. Material deviation from this arrangement, process or means of application, shall bear the Engineer's review stamp before the change is made on the job or materials are ordered. Changes made without such review shall be ordered removed and items installed as specified shall be provided at no additional expense to the Owner.
- B. The drawings are not intended to show in minute detail minor items of installation or materials such as specific fittings or findings.

1.03 MATERIALS AND LABOR

- A. Furnish materials and labor necessary to deliver to the Owner a complete and operable system installed in accordance with the contract documents.
- B. Materials shall be of the best quality. Workmanship shall be of highest grade and construction shall be done according to best practices of the trade.
- C. Provide, when required, labeled samples of material or equipment specified herein or proposed to be used in this work.
- D. Where words "furnish", "provide", or "install" are mentioned, either singly or in combination, these words are hereby interpreted to mean "furnish and install" or "provide and install", including materials complete with connections, supplemental devices, accessories and appurtenances, unless specifically otherwise noted. These words are likewise hereby interpreted as being prefixed to

materials, equipment, and apparatus hereinafter mentioned, either in abbreviated or scheduled information or in the technical sections of the specifications.

1.04 EQUIPMENT INSTALLATION IN HEATING SEASON

- A. The system shall be installed such that the construction area will have sufficient heat to maintain temperature above freezing throughout the construction period.

1.05 COOPERATION BETWEEN TRADES

- A. Provide information sufficiently in advance of this work, so that work by the other trades may be coordinated and installed without delays. Furnish and locate sleeves, supports, anchors and necessary access panels.
- B. Where work is concealed, assure it does not project beyond finished lines of floors, ceilings, or walls.
- C. Equipment or piping requiring access found to be located above sheetrock ceilings shall be brought immediately to the attention of the Engineer for resolution.

1.06 VISITING THE PREMISES

- A. Visit the site and examine existing conditions before submitting bid.

1.07 ORDINANCES, AUTHORITIES, PERMITS, AND FEES

- A. Obtain necessary permits and licenses, give notices and comply with laws, ordinances, rules, regulations or orders affecting the work, and pay fees and charges in connection therewith.
- B. The "authority having jurisdiction" is the organization, office, or individual responsible for "approving" equipment, an installation, or a procedure.

1.08 PROTECTION OF WORK AND MATERIALS

- A. Protect and care for materials delivered and work performed until the completion of the work. Defective equipment or equipment damaged in the course of storage, installation or test shall be replaced or repaired to the satisfaction of the Engineer at no additional cost to the Owner.

1.09 SAFETY REGULATIONS

- A. Work shall conform to the requirements of the Occupational Safety and Health Act (OSHA) of 1970 and Amendments thereto.
- B. Equipment and materials in contact with potable water shall be lead free (ONLY).

1.10 INSURANCE

- A. Purchase and maintain Workmen's Compensation Insurance, Public Liability and Property Insurance during the progress of the work and until completion and acceptance of the entire project by the Owner in the amounts as specified in the General Conditions.

1.11 APPLICABLE CODES

- A. Work and materials shall conform to the latest rules and regulations listed below and these rules and regulations hereby are made part of this specification. They include, but are not necessarily limited to the following:

American Gas Association (AGA)  
American Society for Testing and Materials (ASTM)  
Underwriters' Laboratories, Inc. (UL)  
Air Moving and Conditioning Assoc. (AMCA)  
American Society of Heating, Refrigerating, and Air  
Conditioning Engineers (ASHRAE)  
American Society of Mechanical Engineers (ASME)  
National Electrical Manufacturers Association (NEMA)  
Institute of Electrical and Electronics Engineers (IEEE)  
American National Standards Institute (ANSI)  
National Fire Protection Association (NFPA)  
American Water Works Association (AWWA)  
Local and State Fire Code  
The Board of Fire Underwriters  
Local and State Plumbing Codes  
American Welding Society  
Building Officials Code Administration (BOCA)  
Office of Safety and Health Administration (OSHA)

1.12 SHOP DRAWINGS

- A. Submit shop drawings, manufacturers' data and certificates for equipment, materials and finish, and pertinent details for each system where specified in each individual section, five (5) copies, to be submitted to the Engineer. Shop drawings will be returned "No Exceptions Taken", "Make Corrections Noted", "Revise and Resubmit", "Rejected", or "Submit as Specified", less two (2) copies.

Work shall progress in accordance with "Reviewed" shop drawings (ONLY).

- B. Groups of similar shop drawings shall be submitted as individual bound documents with covers and indexes. Typical similar items would be "Radiation and Steam Specialties", "Valves and Controls". Rejection of individual items will not be cause for rejection of the entire document.
- C. Clearly indicate item(s) to be reviewed on each submission by highlighting or underlining intended item(s). Submissions not clearly marked shall be returned "Amend and Resubmit".
- D. Shop drawings must bear the Engineer's review stamp. In the event that the Engineer rejects shop drawings, the shop drawing must be revised and resubmitted for review.
- E. Furnishing of the specified item must still produce the results and performance, dependability and quality reasonably to be expected within the spirit of the specifications, drawings, and the standard of good mechanical performance normal to the trade.
- F. Repeated malfunctioning or failure in service of any item or work of the system is sufficient cause for the Engineer to order the removal of the item, and its replacement with new item at the expense of the Contractor.

#### 1.13 SUBSTITUTIONS

- A. Where the specifications allow the substitution of a product, still this product is subject to review by the Engineer in accordance with the paragraph entitled "Shop Drawings". Review of a substitute item is an indication only that the substitute item is compatible with the specified item as a claim of the manufacturer. Insure dimensional propriety, performance, and quality of the substitute item.
- B. Reference in the specifications or on the drawings to any product, material, fixture, form or type of construction, by proprietary name, manufacturer, make or catalog number, establishes a standard of quality or design and is not meant to limit competition. Use any equivalent substitute provided favorable written review by the Engineer is first obtained. The (ONLY) notation in the specification is an exception to this and leaves no option.
- C. For materials or equipment which are supplied with

integral or factory applied finish, the colors will be considered in evaluating substitutions.

- D. For the purpose of avoiding conflicts with other trades, contracts, and adjoining work where more than one (1) article, device, material, fixture, form or proprietary name, manufacturer, make or catalog number, the first named shall be used as the basis of design and details. The cost of any changes because of substituted item shall be borne by the Contractor requesting such change.

## PART II - EXECUTION

### 2.01 REMOVALS AND RELOCATIONS

- A. Removals shall be performed without damage to adjacent retained work; however, where such work is damaged, patch, repair, or otherwise restore adjacent retained work to its original condition. Existing materials, fixtures, and equipment which have been removed or disconnected but are not indicated or specified for reuse in the new work shall be removed from the site at no expense to the Owner. Removals shall be as indicated, and shall be performed in a neat and workmanlike manner to the limits indicated or specified, or to the minimum extent necessary or required for the proper installation of new work. Existing surfaces remaining after removals to which new work is to be applied shall be left in a condition suitable for the application of the new work.
- B. Relocations shall be as indicated and shall be performed by workmen skilled in the trade involved. The removal and reinstallation of relocated items shall be performed in a neat and workmanlike manner and items to be relocated which are damaged shall be repaired or replaced with new undamaged items as reviewed by the Engineer. The cost of relocations in order to install new work shall be included as part of the contract bid price. Relocations shall include associated piping, wiring, controls, ductwork, hangers, and supports.
- C. Patching: Where removals leave holes and damaged surfaces that will be exposed in the finished work, these holes and damaged surfaces shall be patched and repaired to match adjacent finished surfaces. Where new work is to be applied for existing surfaces, removals and patching shall produce surfaces that are suitable for the provision of the new work. Patching shall be performed by workmen skilled in the trade involved and shall be performed in a neat and workmanlike manner. Finished surfaces of patched area shall be flush with the adjacent existing surface and

shall match the existing adjacent surface as closely as possible as to texture and finish.

2.02 GRADES AND ELEVATIONS

- A. Establish and protect grades and elevations in connection with this work.

2.03 EQUIPMENT SUPPORTS

- A. Furnish and install equipment supports for mechanical equipment as required. Supports shall be subject to review by the Engineer.

2.04 SLEEVES AND PREPARED OPENINGS

- A. Coordinate cutting, patching and setting of sleeves, frames, framing and lintels for openings with other trades. Sleeves shall be furnished by the Contractor.
- B. Failure to give timely notice of and to locate openings and furnish sleeves shall cause no additional expense to the Owner.

2.05 CONNECTION TO EQUIPMENT

- A. Provide piping connections, supports, brackets, compensators or flexible connections to prevent application of excessive stresses to equipment.
- B. Equipment shall be installed with flanges or unions in such a manner as to permit disconnecting for removal of tubes, coils, elements and other equipment for inspection, service and repairs.

2.06 ACCESS TO EQUIPMENT

- A. The installation of work performed shall provide reasonable accessibility for operation, inspection, and maintenance of equipment and accessories. The Engineer shall determine the adequacy of such accessibility.

2.07 ACCESS PANELS

- A. Access panels shall be provided where indicated on the drawings and as required for access to valves and other serviceable components. Doors shall be flush type 14 ga. steel and hinged to a 16 ga. frame. The manufacturer shall be "Inryco-Milcor", Style "M" or "Miami-Carey" "HM". Latch shall be operated by flush face screw. Doors and frames shall be factory primed. Size shall be 16"x16" unless otherwise indicated.

- B. Access panels installed in fire-rated assemblies shall have the same fire rating as the assembly.

#### 2.08 PAINTING OF EQUIPMENT

- A. Exposed ironwork, including steel supports and hangers in unfinished spaces, mechanical rooms, pits, and trenches shall be properly cleaned, prepared and painted with two(2) coats of black asphaltum varnish.

#### 2.09 GUARDS

- A. Exposed moving and rotating elements of mechanical equipment items shall be protected with suitable guards for personnel protection. Guards shall be of rigid construction, firmly positioned. Holes shall be provided in guards at shaft centers to facilitate tachometer readings. OSHA requirements will govern.

#### 2.10 LUBRICATION

- A. Furnish and install grease fittings for points requiring lubrication. Furnish extension type fittings as required to provide easy access for maintenance lubrication.
- B. Furnish initial charges of lubricants for equipment. Lubricants shall be in conformance with the manufacturer's requirements and recommendations.

#### 2.11 ELECTRIC MOTORS AND MOTOR CONTROLS

- A. Unless otherwise noted, motors, motor starters and other electrical accessories which are specified under Mechanical specifications shall be selected with characteristics as follows:
  - 1/3 Horsepower and less - 120 volt, 1 phase 60 Hz.
  - 1/2 Horsepower and larger - 208 volt, 3 phase, 60 Hz.
- B. Motors shall be built in accordance with the latest applicable NEMA, IEEE and ANSI Standards. Motors shall be of the latest type and quality specified under individual items of equipment.
- C. Magnetic motor starters for mechanical items of equipment shall be furnished by the mechanical contractor unless otherwise noted in individual equipment specifications. Overload heater elements shall be furnished with the starters. Starters shall be equipped with suitable step-down transformers to provide required control voltage. Starters shall be furnished with a "hand-off-auto" switch.



- D. Motors 2 HP and larger shall be high efficiency type. Motors shall have a minimum continuous duty service factor of 1.15.

#### 2.12 CLEANING OF SYSTEMS

- A. Piping systems shall be thoroughly cleaned and flushed prior to initial operation.
- B. Thoroughly clean exposed portions of the mechanical installation, removing labels and foreign substance.
- C. Furnish detergents, solvents, cleaning compounds, and tools required for cleaning operations.
- D. Keep the premises free from accumulation of waste material or rubbish and at the completion of the work, remove from the job site tools, scaffolding, surplus materials, and rubbish, leaving the work areas "broom" clean.

#### 2.13 STARTING OF EQUIPMENT

- A. Testing or starting of equipment shall be done in collaboration with trades concerned to insure safe and proper operation of the equipment.
- B. Prior to starting equipment, provide lubrication at required points. Before starting any electrical or electric motor driven equipment, a check must be made to insure that proper heater coils are installed in the starters and that the equipment is rotating in the proper direction.

#### 2.14 OPERATIONAL TESTING

- A. Operate systems until successful operation is demonstrated to the Engineer. This initial operation shall be in addition to the testing of the system and shall be done after the system is cleaned and finished.

#### 2.15 RECORD DRAWINGS

- A. During construction, keep an accurate record of deviations to the installation of the work as indicated on the drawings. Upon completion of the work, furnish a copy of this record to the Engineer. Submit record drawings before requesting final payment.

#### 2.16 MANUFACTURER'S REPRESENTATIVE

- A. As indicated in the Technical Sections of this specification or as directed by the Engineer, provide the

services of a factory trained Engineer or Technician to inspect, adjust, and place in proper operating condition the equipment or item involved. No additional compensation will be allowed for such service.

2.17 MANUFACTURER'S INSTRUCTIONS, OPERATION AND MAINTENANCE DATA

- A. Provide for each item of equipment or apparatus furnished, a complete set of printed instructions obtained from the manufacturer covering proper operation, maintenance, lubrication, cleaning, servicing, adjustment, and safety instructions.
- B. Manufacturer's data shall include performance data (curves are preferred where applicable) complete parts lists, recommended spare parts lists, piping, and wiring diagrams.
- C. Arrange data in complete sets, properly indexed and marked.
- D. Data shall include a complete set of shop drawings.
- E. Material shall first be submitted in preliminary form for review by the Engineer. After review, submit two (2) copies in bound volumes to the Engineer for distribution.

2.18 GUARANTEES

- A. An item becomes "defective" when it ceases to conform to the Contract Documents. Guarantees begin on the date of issuance of a certificate authorizing final payment or certificate of substantial completion with the Owner taking occupancy or beneficial use thereafter.
- B. Upon completion of the work and before applying for final payment, furnish a written guarantee, stating that the work complies with the provisions of codes listed herein and the local enforcing authorities, and that it will be free from defects of material and workmanship for not less than one (1) year. Guarantee shall further state that the Contractor will, at his own expense, repair or replace any of his material and work which may become defective during the time of guarantee, together with other work damaged as a consequence of such defects.
- C. Where special guarantees, covering installation, operation or performance of any systems, or equipment furnished under are indicated, the full responsibility for the fulfillment of such guarantees must be assumed by the Contractor who shall obtain written guarantees in

triplicate, two (2) copies of which shall be filed with the Engineer before final acceptance.

2.19 EXISTING UTILITIES AND EQUIPMENT

- A. Care shall be taken to protect or replace damaged existing utilities. Information indicated in the contract documents is the best information available as to the location of underground and concealed utilities and equipment.

\* END OF SECTION \*

SECTION 15100  
PLUMBING

PART 1 GENERAL

1.01 DESCRIPTION: The work covered by this Section of the specifications includes the furnishing of labor, materials, equipment, transportation, permits, inspections and incidentals and the performing of operations required to install a complete and functional plumbing system, as indicated.

1.02 GENERAL REQUIREMENTS: The provisions of Section 15000 "Supplemental Mechanical Requirements" are made a part of this section.

A. The items for which the shop drawings paragraph in Section 15000, General Mechanical Requirements, apply are as follows:

1. Plumbing fixtures, traps, and trimmings.
2. Valves and valve devices, shock suppressors and relief valves.
3. Pipe materials and hangers.
4. Insulation materials.
5. Cleanouts.
6. Access panels.
7. Thermometers and pressure gauges.
8. Flexible connectors.
9. Pipe anchors.
10. Valve, piping, and equipment identification.
11. Water heater.
12. Sewage/sump pumps.

1.03 SUBSTITUTIONS: Your attention is directed to Section 15000-1.13.A,B,C,& D. relative to competition and the (ONLY) notation. Familiarity with this section should be achieved before reading the PRODUCTS section of this specification.

PART 2 PRODUCTS

2.01 FIXTURES AND TRIM

A. Water Closets (P-1)(P-1A): Kohler K-4430 ET "Kingston" white vitreous china, siphon jet, elongated toilet with top spud. Accessories shall include an Olsonite #95 seat, open front solid white plastic with check hinges, bolt caps and Sloan Royal Series 110-3 flush valve with vacuum-

breaker, chrome-plated. Furnish a compatible wall carrier by Wade, Jay R. Smith or Zurn (ONLY).

- B. Lavatories (P-2): Kohler K-2894 "Tahoe" 20"x18" self-rimming white enameled cast iron with 4" faucet centers. Lavatory faucet Kohler K-7443-T "Triton II" 4" spout with aerator. Smooth polished chrome finish provide with wrist blade handles.
- C. Service Sink: Powers-Fiat of Williams, MSB-2424 molded stone, white, with stainless steel drain body, grid strainer, service faucet #830-AA, hose and hose bracket #832-AA and mop hanger #889-CC.
- D. Urinal (P-3): Kohler K-5014-T "Dexter" white vitreous china, siphon jet, action 1-1/4 top spud inlet, 2" outlet, wall-mounted with Sloan Royal 180-3 flush valve. Furnish a compatible wall carrier by Wade, Jay R. Smith of Zurn (ONLY).
- E. Water Hammer Arrestors: Provided on hot and cold water piping at each fixture group and as indicated on the drawings.

Water hammer arrestors shall be Jay R. Smith, or Zurn, (ONLY).

Size #400 PDI

- F. Cleanouts: Shall be Zurn Z-1400 Series "Leveltrol Supremo" with suitable cover for floor finish.

## 2.02 PIPING MATERIALS

- A. Soil, waste, vent piping, and roof drain piping: type DWV hard copper tubing and cast bronze or wrought copper solder fittings or Schedule 40 PVC drainage piping.
- B. Hot and cold water piping: Type L hard copper tubing and cast bronze or wrought copper solder fittings.
- C. Exposed water and waste piping at fixtures: I.P.S. copper with cast brass fittings chrome plated finish, with deep one piece escutcheon plates at traverse points.

## 2.03 VALVES

- A. Ball valves: Apollo.

1. 3/8" through 2" copper, Model 70-202 through 208.

B. Check valves: Nibco.

1. 1/2" through 2" copper, Model S-413.
2. 1/2" through 2" IPS, Model T-413.

C. Service Stop Valves:

1. Each plumbing fixture shall have individual stop valves in the hot and cold supplies to permit isolating each fixture for service.
2. Service stop valves exposed in finished areas shall be chrome-plated brass.

2.04 INSULATION MATERIALS

- A. Hot and Cold Water Piping: heavy density fiberglass with thermal conductivity of 0.29 BTU-in/hr-ft<sup>2</sup>-°F at 150°F mean temperature. Insulation shall be suitable for 400°F service.
- B. Insulation jacket: All service (ASJ) type, with maximum flame spread of 25, fuel contribution of 50 and smoke developed of 50 (ASTM E84). Jacket permeability shall not exceed 0.02 perms (ASTM E96). Pipe fitting insulation shall be same material used for pipe. Fittings: Prefabricated "Zeston".
- C. See "Execution Part 3.04.E" for insulation thickness.

2.05 PIPE HANGERS AND PIPE SHIELDS:

- A. Adjustable swivel hanger: Carpenter and Paterson Fig. 800 for steel pipe and Fig. 800 CT for copper tubing.
- B. Riser clamp: Carpenter and Paterson Fig. 126 for steel pipe and Fig. 126 CT for copper tube.
- C. Shields: Galvanized, sized for insulation.

2.06 ACCESS PANELS

- A. Provide access panels where indicated on the drawings and as required for access to valves and other serviceable components. Doors shall be flush type, 14 ga. steel and hinged to a 16 ga. frame. The manufacturer shall be "Inryco-Milcor", Style "M" or "Miami-Carey" "HM". Latch shall be operated by flush face screw. Doors and frames shall be factory primed. Size shall be 16" x 16" unless otherwise indicated. Doors in fire-rated assemblies shall have the same fire rating.

2.07 SEWAGE/SUMP SIMPLEX PUMP

- A. Shall be Zoeller Model M267 Simplex sewage package system with 20" dia. x 30" D. sump basin and a pumping capacity of 50 GPM at a 15 ft. head.
- B. The pump motor shall be 1/2 HP, 120 V, 1750 RPM. Controls shall consist of a float switch.
- C. Sump basin material shall be polyethylene or fiberglass. Sump cover shall be gasketed and include a 2" vent flange 2" discharge flange and power cord seal. Basin shall include a 4" inlet hub.

2.08 WATER HEATER

- A. Rheem Model 81V 80D, 80 gallon automatic storage electric water heater, rigid polyethane foam insulation, 208 volts, 3 phase.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- A. Inspection
  - 1. Prior to work of this Section, carefully inspect the installed work of other trades and verify that such work is complete to the point where this installation may properly commence.
  - 2. Verify that the plumbing system may be installed in strict accordance with pertinent codes and regulations and the reviewed Shop Drawings.

3.02 INSTALLATION OF PIPING

- A. Provide and erect in accordance with the best practice of the trade piping shown on the drawings and as required to complete the intended installation. Make offsets as shown or required to place piping in proper position to avoid other work and to allow the application of insulation and finish painting to the satisfaction of the Engineer.
- B. The size and general arrangements, as well as the methods of connecting piping, valves, and equipment, shall be as indicated, or so as to meet the requirements of the Engineer.
- C. Piping shall be erected so as to provide for the easy and noiseless passage of fluids under working conditions.

- D. Install unions to facilitate assembly and disassembly of piping and removal of equipment.
- E. Steel piping 2" and smaller shall have screwed connections. Threads on piping must be full length and clean-cut with inside edges reamed smooth to the full inside bore. Close nipples shall not be used. Pipe threads: standard pipe threads, machine cut and full length. Pipe shall be reamed to remove burrs and up-ended and rapped to dislodge dirt and scale. Joint compound shall be applied to male thread only. If necessary to back off a screwed joint after it is made, the thread shall be cleaned and new compound applied. Caulked threads will not be permitted.
- F. Connections between copper and steel piping shall be made with brass fittings.
- G. Solder joints shall be made with 95-5 tin-antimony solder. Clean surfaces to be soldered and use a paste flux. Wash joints with sodium bicarbonate and water to remove corrosive effects of heated solder paste. Hot wipe solder at each fitting.
- H. Points of traverse of piping through walls and floors shall be through copper sleeves for copper tubing, iron pipe sleeves for iron pipe. Sleeves shall be of the next clearance size. Traverse points of piping shall be escutcheoned with split chrome floor and ceiling plates and spring anchors, where visible to occupancy.

3.03 PIPE HANGERS

- A. Impact driven studs are not acceptable.
- B. Galvanized and cast iron pipe: supported at intervals as follows, with Clevis hangers, rod sizes as follows, double nuts on clevis hanger and on beam clips.

Galv. Pipe	Hanger Intervals	Rod Sizes
2"	8'	3/8"
2-1/2"	10'	1/2"
3"	12'	1/2"
4"	12'	1/2"

Cast Iron Pipe	Hanger Intervals	Rod Sizes
2"	5'	3/8"
2-1/2"	5'	1/2"
3"	6'	1/2"
4"	7'	5/8"



- C. Copper tubing: supported at intervals as follows, with copper plated hangers, rod sizes as follows, double nuts on hangers and on beam clips.

Copper Size	Hanger Intervals	Rod Sizes
1/2"	7'	3/8"
3/4"	7'	3/8"
1"	8'	3/8"
1-1/4"	8'	3/8"
1-1/2"	10'	3/8"
2"	10'	3/8"
3"	12'	3/8"

- D. Verticals: supported at not more than 16. ft. intervals by use of clamp hangers. Cast iron risers: supported at the base of the stack.

### 3.04 INSULATION OF PIPING

- A. Insulate domestic hot, cold, and recirculated hot water piping, valves and fittings. Fittings shall be pre-molded insulation covered with PVC jacket. Cover valve bodies and unions with the enlargement square shouldered and the ends hard finished before jacket is applied.
- B. Hangers: Use insulation shields.
- C. Fittings and valve bodies insulated to a thickness equal to the pipe insulation and with the same jacket.
- D. Unions shall be covered as are fittings but shall have collared enlargement at least 1" larger than the OD of the line insulation.
- E. Insulation Thickness:
1. Roof Drain and Cold water piping: 1" thick fiberglass insulation.
  2. Hot Water Piping: 1" and smaller pipe sizes - 1/2" thick fiberglass insulation. 1-1/4" and larger pipe sizes - 1" thick fiberglass insulation.
  3. Recirculated Hot Water Piping: 1" thick fiberglass insulation.
  4. Alternate: For sizes and services specified for elastomeric unicellular insulation, thickness shall be 1/2" thick.

3.05 CLOSING IN UNINSPECTED WORK

- A. General: Cover up or enclose work after it has been properly and completely inspected and reviewed.
- B. Noncompliance: If any of the work is covered or enclosed prior to required review, uncover the work as required and, after it has been completely reviewed, make repairs and replacements with such materials as are necessary for the satisfaction of the Engineer and at no additional cost to the Owner.

3.06 CLEANUP AND CORROSION PREVENTION

- A. Upon completion of the work, thoroughly clean and flush piping systems with water.
- B. Fixtures, piping and equipment: thoroughly cleaned. Dirt, dust, and debris: removed and the premises left in a clean and neat condition.
- C. Caulk around fixtures at floor and wall.
- D. Before covering is applied to piping systems, clips, rods, clevises and other hanger attachments, and before uncovered piping is permitted to be concealed, corrosion and rust: wire brushed and cleaned and in the case of iron products, a coat of protective paint applied to these surfaces. When corrosion is from the effects of hot solder paste, the areas shall be cleaned and polished and a wash of bicarbonate of soda and water used to neutralize the acid condition.

3.07 DISINFECTING: After the entire potable water system is completed, cleaned and tested, and just before the building is ready to be occupied, disinfect the system as follows: After flushing the mains, introduce a water and chlorine solution for a period of not less than three hours before final flushing of the system.

3.08 TESTS

- A. New sanitary soil, waste, and roof drain vent piping: filled with water to top of vents, and tested as required by Code.
- B. Water piping: tested to a pressure of 100 lbs., per square inch for at least 30 minutes. Pressure drop in this period not to exceed two pounds per square inch. Leaks shall be repaired and system retested. Notify Engineer 24 hours before test is to be performed.

3.09 INSTRUCTIONS

- A. On completion of the project, provide a competent technician to thoroughly instruct the Owner's representative in the care and operation of the system. The time of instruction shall be arranged by the Owner.

END OF SECTION

SECTION 15200  
HEATING, VENTILATING & AIR CONDITIONING

PART 1 GENERAL

- 1.01 DESCRIPTION: The work covered by this Section of the specifications includes the furnishing of labor, materials, equipment, transportation, permits, inspections and incidentals and the performing of operations required to install the heating and ventilating and air conditioning systems as indicated.
- 1.02 GENERAL REQUIREMENTS: The provisions of Section 15000 "Supplemental Mechanical Requirements" are made a part of this section.
- 1.03 SUBMITTALS
- A. The items for which the shop drawings paragraph in Section 15000, Supplemental General Mechanical Requirements, apply are as follows:
1. Valves, valve devices, and relief valves.
  2. Pipe, fittings and hangers.
  3. Insulation.
  4. Grilles and registers.
  5. Exhaust fans, backdraft dampers and safety switches.
  6. Turning vanes, volume dampers, access doors, accessories, and fire dampers.
  7. Automatic temperature controls.
  8. Combination (flow measuring - balancing - shut-off and drain) valves.
  9. Baseboard radiation.
  10. SMACNA data sheets pertaining to ductwork.
  11. Taping system used for ductwork.
  12. Testing and balancing report.
  13. Louvers and dampers.
  14. Access panels.
  15. Piping identification.
  16. Thermometers and pressure gauges.
- 1.04 SUBSTITUTIONS: Your attention is directed to Section 15000-1.13.A,B,C,&D. relative to competition and the (ONLY) notation. Familiarity with this section should be achieved before reading the PRODUCTS section of this specification.

PART 2 PRODUCTS

2.01 PIPING MATERIALS

- A. Hot Water Heating and Chilled Water Cooling Piping: Type L hard copper tubing and cast bronze or wrought copper solder fittings. Schedule 40 carbon steel pipe with threaded joints and malleable iron fittings may be used as an option.
- B. Refrigeration Piping: Type K ACR tubing.
- C. Fan Coil Unit Condensate Piping: Schedule 40 PVC.

2.02 VALVES

- A. Ball valves: Apollo (only).
  - 1. 3/8" thru 2" copper, Model 70-202 thru 70-208.
  - 2. 1/2" thru 1-1/2" IPS, Model 70-101 thru 70-109.
- B. Gate valves Nibco/Scott (ONLY).
  - 1. 3/8" thru 2", copper, Model S-113.
  - 2. 1/2" thru 2-1/2" IPS, Model T-113.
- C. Swing check valves: Nibco.
  - 1. 1/2" thru 2" copper, Model S-413
  - 2. 1/2" thru 2" IPS, Model T-413.

2.03 HANGERS

- A. Adjustable swivel hanger: Carpenter and Paterson Fig. 800 for steel pipe fig. 800 CT for copper tubing.
- B. Riser clamp: Carpenter and Paterson Fig. 126 for steel pipe and Fig. 126 CT for copper tube.

2.04 HYDRONIC SPECIALTIES

- A. Thermometers: Trerice, No. V80445 with a 4-1/2" diameter face. Hot water system thermometers shall have a range of 30°F to 240°F with 2° increments. Provide with brass thermometer wells projecting a minimum of 2" into the pipe with extension to face of insulation.
- B. Pressure Gauges: Gauges shall be 3-1/2" case, Trerice Series 800 (range 0 to 60 psig), installed with shut off petcock.

- C. Strainers: 125 psig minimum rating wye strainers, with blowdown valve; threaded connections as manufactured by Sarco or Barnes and Jones. Provide as indicated.
- D. Automatic Air Vents: Armstrong air vent traps No. 1-AV 1/2" with stainless steel trim or equal by Amtrol, Sarco or Hoffman. Valves shall be installed with each vent and drains from the vents shall be run to the nearest waste with air gap provided. An air chamber shall be installed at each air vent and shall be line size for piping smaller than 2" and 2" for larger piping.
- E. Manual Air Vents: Consist of air chamber with a 3/8" pipe off the top and a 3/8" ball valve. The valve shall be installed in an accessible location.
- F. Flexible Connectors: Shall be Mason Industries Model MFTFU with galvanized female unions, 8" long, rated at 150 psig at 220°F.
- G. Balancing Valves: Shall be Armstrong Model CBV-1 or CBV-2 circuit balance valves.
  1. Balancing devices shall have provisions for connecting portable differential pressure gauge. Meter connections shall have built-in check valves. Each balancing device to be provided with an attached calibration curve nameplate and be sized to provide a differential pressure reading between 2 and 5 feet with the valve full open at design flow rates.
  2. Install per manufacturer's recommendations for adjacent length of straight pipe.
  3. Shop drawings shall indicate gpm, size, wide open differential pressure meter reading, and actual water pressure drop.
- H. Flow Meters: Shall be Metraflex, or equal, direct-reading in GPM, "Press-to-Read".

#### 2.05 INSULATION

- A. Hot Water Piping: heavy density fiberglass with thermal conductivity of 0.29 BTU-in/hr-ft<sup>2</sup>-°F at 150°F mean temperature. Insulation shall be suitable for 400°F service.
- B. Piping insulation jacket: All service (ASJ) type, with maximum flame spread of 25, fuel contribution of 50 and smoke developed of 50 (ASTM E84). Jacket permeability shall not exceed 0.02 perms (ASTM E96). Pipe fitting

insulation shall be same material used for pipe. Fitting Coating: Field fabricated of vapor barrier/lagging adhesive and 6 ounce canvas cloth - top coat of vapor barrier coating suitable for painting (Childers Chil-Seal/Chil-Lag or equal).

- C. Unions shall be covered as are fittings but shall collared enlargement at least 1" larger than the OD of the line insulation.
- D. See "Part 3.04 - Execution" for insulation thickness.

#### 2.06 FIN-TUBE RADIATION

- A. Shall be Trane Style 12TA, 1-1/4" copper tube, 3-1/4" x 5-1/4" aluminum fins, 50 FPF.
- B. Enclosure shall be 16 gauge steel with full backplate. Heating capacity shall be 1320 BTUH/ft at 180°F AWT with 2.0 GPM.
- C. Enclosure shall have a baked enamel finish with color selection by Architect. Accessories shall include end panels, corner sections and extensions, as indicated.

#### 2.07 FAN-COIL UNITS

- A. Fan-coil units shall be Trane low vertical concealed Mode K.
- B. Basic unit includes hot water coil, chilled water coil, drain pan assembly, fans, motor and galvanized steel chassis.
- C. Motor Characteristics: 115 volts, 1,200 RPM, 680 CFM at .05" external static pressure, 1/8 nominal horsepower with integral thermal overload protection.
- D. Hot Water Coil: 1 GPM, 10 MBH, 1 foot of water pressure drop, 200°F EWT.
- E. Cooling Coil: 3 GPM, 15 MBH, 10 feet of water pressure drop, 44°F EWT, 54°F LWT.

#### 2.08 CABINET UNIT HEATER

- A. Cabinet unit heaters shall be Trane Model "D" horizontal cabinet, 600 CFM, 1/20 HP, 115 volts, 30 MBH at 1 GPM, 190 EWT.

2.09 CIRCULATOR

- A. Grundfos Model UP 43-75, 20 GPM with 13 feet of head, 1/6 HP, 115 volts.

2.10 ACCESS PANELS

- A. Access panels shall be provided where indicated on the drawings and as required for access to valves and other serviceable components. Doors shall be flush type, 14 ga. steel and hinged to a 16 ga. frame. The manufacturer shall be "Inryco-Milcor", Style "M" or "Miami-Carey" Style "HM". The latch shall be operated by flush face screw. Doors and frames shall be factory primed. Size shall be 16" x 16" unless otherwise indicated. Doors in fire-rated assemblies shall have the same fire rating.

2.11 DUCTWORK

- A. Unless otherwise indicated, ductwork shall be galvanized steel conforming to: ASTM A 527; weight of galvanized coating shall be not less than 1-1/4 ounces total for both sides of one sq. ft. of a sheet. Construction, metal gage, and reinforcements shall conform with SMACNA LPDCS and NFPA 90A for 2" W.G. pressure class.
- B. Acoustical Lining: Acoustical duct liner shall be Johns-Manville or Knauf, 3 lb/cu. ft. density, held in place by stic-clips spaced at 12" on center and 100% coverage of adhesive.
- C. Acoustical Liner shall be 1" thick and installed as follows:
  - 1. Outside air intake and return air ductwork.
  - 2. Air cooled condenser supply and return.
  - 3. Where indicated on the drawings.

Ductwork shall be enlarged to provide net dimensions equal to the sizes indicated on the drawings.

- D. Round Spiral Duct: Round spiral duct and fittings shall be single wall spirally wound galvanized steel unless noted in drawing as dual wall. Dual wall duct and fittings shall have 1" thick fiberglass insulation with perforated galvanized liner. Round spiral duct shall be manufactured by United McGill or Semco.



SPIRAL DUCT GAUGE

NOMINAL SIZE	DUAL DUCT		SINGLE DUCT
	SHELL	LINER	
12"	26 GA.	26 GA.	26 GA.
12"-18"	24 GA.	26 GA.	24 GA.
18"-34"	22 GA.	24 GA.	22 GA.

E. 90° elbows shall be long radius type where space permits. Square throats on radiused elbows are not acceptable. Mitered elbows with single thickness vanes are acceptable where space does not permit long sweep elbows.

2.12 MANUAL VOLUME DAMPERS: Ruskin model MD-35 opposed blade with locking quadrant. For round duct, Ruskin Model MDRS25.

2.13 ACCESS DOORS: Shall be Ruskin Model ADH-1, 12" x 12", with removable hinge and cam locks, completely gasketed. Provide access doors at the locations indicated and at each fire damper and motorized damper.

2.14 CABINET EXHAUST FANS (IN-LINE)

A. Shall be Penn Ventilator, Loren Cook or equal by Greenheck. Capacity and sizes shall be as follows:

TAG	MODEL	CFM	TSP ("WG)	MOTOR RPM	MOTOR WATTS	VOLT
EF-1	Z121	700	.5"	1075	300	115
EF-2	Z12	500	.5"	----	280	115
EF-3	Z12	500	.5"	----	280	115
EF-4	94	285	.75"	----	1/6 HP	115
EF-5	Z101	320	.5"	----	240	115

B. EF-2, EF-3, EF-4 and EF-5 shall have a solid-state speed switch located as indicated on the drawings.

2.15 FIRE DAMPERS

A. Shall be Ruskin Model IBD2, Style "CR", with blades out of the airstream, UL listed for up to two (2) hours. The fusible link shall be rated at 212°F.

B. Each fire damper shall have a factory-fabricated sleeve for round duct.

C. Install at each fire damper a 12" x 12" access door for replacement of the fusible link.

2.16 LOUVERS (L-1)

- A. Ruskin Model ELR811, stationary louver with semiround top, extruded aluminum, 4" deep with channel frame for grouting into wall. Finish shall be primed for field painting. Bird screen shall be located at interior face. Field verify rough opening.
- B. Portions of louver not used for ductwork shall be blanked off with sheet metal and rigid insulation.
- C. Louver noted as removable in drawing shall be used for access and will be installed in such a way as to be easily removable.

2.17 DIFFUSERS, REGISTERS AND GRILLES

- A. Side Wall Supply Grilles (SG) shall be Metalaire Model VHD double deflection, aluminum finish, 45° deflection with OBD volume damper.
- B. Linear bar grilles in the floor shall be Metalaire Series 2000F, reinforced for floor installation, extruded aluminum. Bar grilles in Room 228 have no border. Bar grilles in Room 337 have 1/2" border.
- C. Sidewall exhaust and return grilles (ER) shall be Metalaire Model "RH" with 45° vanes, extruded aluminum primed for field painting.
- D. Schedule:

	SIZE	Nc
SG-1	6x16	20
SG-2	16x24	20
RG-1	24x24	20
RG-2	10x10	20

2.18 AIR HANDLING UNIT

- A. Shall be Trane, McQuay, or equal. Unit shall be equal to Trane vertical draw-thru climate-changer with accessories as follows: Mason Industries "Super W" neoprene isolation pads, 3/4" high for floor mounting, access door, medium capacity filter box with Farr 2" thick 30-30 filters and two (2) spare sets, OSHA approved belt guard, belt drive with adjustable sheave rated at 150% of motor HP and 8" extended casing. Unit shall include a hot water coil and Dx coil.

- B. The unit shall incorporate 1" acoustical liner applied to the interior of the casing and shall include a full drain pan.
- C. 4100 CFM at 2" WG total static pressure drop, 2 HP motor, 208 volt, 3 phase.

2.19 AIR-COOLED CONDENSER

- A. Shall be Trane No. 10 centrifugal air-cooled condenser with accessories as follows: Mason Industries "Super W" neoprene isolation pads, 3/4" high for floor mounting.

2.20 REFRIGERATION SPECIALTIES

- A. Sight glass double port type with copper or brass body and flared ends. Provide removable seal caps on each port for inspection. Provide full pipe size.
- B. Strainer: On steel piping systems provide strainer in suction line to remove scale and rust. Provide shut-off valve on each side of strainer to facilitate maintenance.
- C. Filter-Driers: Angle type with brass shell and using combined straining and drying material.
- D. Solenoid Valves: Copper or brass body with flared or threaded ends, replaceable coil assembly.
- E. Expansion Valves: Angle type or straight through design suitable for refrigerant utilized in the system. Brass body, internal equalizer and adjustable superheat setting complete with capillary tube and remote sensing bulb.
- F. Charging Valves: General purpose type with brass body, flared or soldered ends.
- G. Semihermetic compressor, 7.5 nominal tons, 208 volt, 3 phase.

2.21 AUTOMATIC TEMPERATURE CONTROLS

- A. Furnish and install a complete system of automatic temperature controls. The system shall be compatible with the existing system and shall provide the specified sequences of operation. Required components and wiring shall be included.

B. Guarantee:

1. The entire control system shall be guaranteed for a

period of one(1) year from the date of acceptance by the Owner.

- C. Upon completion of the project, at the Owner's convenience, instruct the Owner and the operating personnel on the use of the system.
- D. The temperature control system shall include low and line voltage wiring from the junction box furnished by the Electrical Contractor. Wiring shall be in conformance with the "Electrical" section of the specifications.
- E. The control system installation shall include, but not be limited to the following: control transformers, valves, actuators, relays, flow switches, time switches, thermostats, control dampers, auxiliary switches, interlocks, and controllers.
- F. The control system shall include the following:
  - 1. Fan-coil units.
  - 2. Motorized dampers.
  - 3. Exhaust fans.
  - 4. Zone control valves.
  - 5. Press Corps heating and air conditioning.
- G. Control Components:
  - 1. The programmable time switch shall be Grasslin or Grenmont with a minimum of two (2) independent channels. The time switch shall be microprocessor - based with a 24 hr. battery-operated carryover feature to maintain the clock and memory functions.
  - 2. Motorized control dampers shall be Ruskin Model CD-50, extruded aluminum, airfoil blade with blade and jamb seals, maximum leakage of 6 CFM/SF at 4" W.G. pressure differential. A 12"x12" access door shall be provided at each motorized control damper.
  - 3. Wall mounted thermostats shall be pneumatic with exposed setpoint adjustment and thermometer.
- H. Baseboard Radiation:
  - 1. Wall-mounted thermostats cycle pneumatic zone valves to maintain the setpoint.
- I. Exhaust Fans:
  - 1. EF-1: Controlled by programmable time clock.

2. EF-2: Solid-state speed switch.
3. EF-3: Solid-state speed switch.
4. EF-4: Solid-state speed switch.
5. EF-5: Two On/Off Switches with pilot lights. Locate switches in Room B102A and Room 106C.

2.22 FANCOIL UNITS (ROOM 228)

- A. Control system shall include a wall mounted manually-operated fan motor speed switch and a two-stage thermostat. The thermostat shall be able to open six two-position heating valves and six two position cooling valves, depending upon which is required to satisfy setting on thermostat. Thermostat shall have a three-degree dead space between heating and cooling position to prevent valve cycling. Hot water valves and chilled water valves will not operate simultaneously.

2.23 PRESS CORPS HEATING AND AIR CONDITIONING

- A. Wall mounted thermostat shall cycle cabinet unit heater motor. Aquastat on return heating water line shall stop motor on low temperature.
- B. Two-stage thermostat shall operate three-way heating valve. Auxiliary switch on valve shall operate circulator. Circulator shall also run for coil freeze protection. Flow switch shall stop fan motor and close outside air damper at no flow condition. Provide freezestat down stream of heating coil. Thermostat shall have a three-degree dead space between heating and cooling. On a call for cooling thermostat shall cycle refrigeration system. Heating and cooling will not operate simultaneously.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection

1. Prior to work of this Section, carefully inspect the installed work of other trades and verify that such work is complete to the point where this installation may properly commence.
2. Verify that the heating system may be installed in strict accordance with pertinent codes and regulations and the reviewed Shop Drawings.

### 3.02 INSTALLATION OF PIPING

- A. Provide and erect in accordance with the best practice of the trade piping shown on the drawings and as required to complete the intended installation. Make offsets as shown or required to place piping in proper position to avoid other work and to allow the application of insulation and finish painting to the satisfaction of the Engineer.
- B. The size and general arrangements, as well as the methods of connecting piping, valves, and equipment, shall be as indicated, or so as to meet the requirements of the Engineer.
- C. Piping shall be erected so as to provide for the easy and noiseless passage of heating fluid under working conditions. Inverted eccentric reducing fittings shall be used whenever water pipes reduce in size.
- D. Water mains shall be run level or pitch slightly upward so that no air pockets are formed in the piping. The mains shall be set at elevations such that the runouts feeding equipment shall have no pockets where air can collect except where vents are provided. Provide drains at low points in the piping systems and air vents at points of descending water flow.
- E. In the erection of hot water supply and return piping, make proper allowances for expansion and contraction. Piping shall be anchored as necessary to control expansion. Hot water runouts to units shall be the size as indicated on the drawings and shall come off the main downward or off the side with a minimum of two 90° elbows provided on runout from main.
- F. Install unions to facilitate assembly and disassembly of piping and removal of equipment.
- G. Steel piping 2" and smaller shall have screwed connections. Threads on piping must be full length and clean-cut with inside edges reamed smooth to the full inside bore. Close nipples shall not be used. Pipe threads shall be standard pipe threads, machine cut and full length. Pipe shall be reamed to remove burrs and up-ended and rapped to dislodge dirt and scale. Joint compound shall be applied to male thread only. If necessary to back off a screwed joint after it is made, the thread shall be cleaned and new compound applied. Caulked threads will not be permitted.
- H. Low points in water piping shall have provisions for draining with ball valve and hose bibb.

- I. High points in water piping shall be provided with manual vents.
- J. Connections between copper and steel piping shall be made with brass fittings.
- K. Thermometers to be installed as shown. Install thermometer wells for thermometers projecting a minimum of 2" into the pipe with extension to face of insulation. Piping 2" and smaller shall be enlarged to 1-1/2" where wells are installed.
- L. Solder joints shall be made with 95-5 tin-antimony solder ASTM B32 Alloy 50A. Clean surfaces to be soldered and use a paste flux. Wash joints with sodium bicarbonate and water to remove corrosive effects of heated solder paste. Hot wipe solder at each fitting.
- M. Points of traverse of piping through walls and floors shall be through copper sleeves for copper tubing, iron pipe sleeves for iron pipe. Sleeves shall be of the next clearance size. Traverse points of piping shall be escutcheoned with split chrome floor and ceiling plates and spring anchors, where visible to occupancy.

3.03 PIPE HANGERS

- A. The use of impact driven studs is not acceptable.
- B. Iron pipe: supported at intervals and with rod sizes as follows, double nuts on hanger and on beam clips.

Iron Pipe	Hanger Intervals	Rod Sizes
2"	8'	3/8"
2-1/2"	10'	1/2"
3"	12'	1/2"
4"	12'	1/2"

- C. Copper tubing: supported at intervals as follows, with copper plated hangers, rod sizes as follows, double nuts on hangers and on beam clips.

Copper Size	Hanger Intervals	Rod Sizes
1/2"	7'	3/8"
3/4"	7'	3/8"
1"	8'	3/8"
1-1/4"	8'	3/8"
1-1/2"	10'	3/8"
2"	10'	3/8"
3"	12'	3/8"

- D. Verticals: supported at not more than 16 ft. intervals by use of clamp hangers.

### 3.04 INSULATION OF PIPING

- A. Insulate heating hot water supply and return piping, chilled water piping, refrigeration piping, and condensation piping, valves and fittings. Fittings shall be completely covered with insulation shorts under a packed base of fiberglass insulation, and bias wrapped with style 84-207 Fiberglass Cloth, using adhesive and paint as recommended by the manufacturer. Close ends with this jacket neatly tucked in and trimmed on the O.D. of the covering. Cover valve bodies and unions with the enlargement square shouldered and the ends hard finished before jacket is applied.
- B. Hangers: "on the pipe" and buried in the insulation. Ends of insulation shall be completely enclosed in a fiberglass jacket, tucked into the ID of the covering and neatly trimmed and pasted on the OD of the covering.
- C. Fittings and valve bodies insulated to a thickness equal to the pipe insulation and with the same jacket.
- D. Unions shall be covered as are fittings but shall have collared enlargement at least 1" larger than the OD of the line insulation.
- E. Piping above or below any finned pipe inside a radiation cover shall be uninsulated.
- F. Insulation Thickness:

Hot water supply and return and chilled water supply and return: 1" thick insulation for piping mains and 1/2" thick for runouts. Condensate piping: 1/2" thick. Refrigeration piping: 1/2" thick.

### 3.05 INSTALLATION OF DUCTWORK AND AIR DEVICES

- A. Provide and erect in accordance with the best practice of the trade ductwork shown on the drawings and as required to complete the intended installation. Make offsets as shown or required to place ductwork in proper position to avoid conflicts with other work. Ducts shall be arranged to adjust to "field conditions". Work shall conform to ASHRAE duct construction recommendations, SMACNA "Low Pressure Duct Construction Standards," NFPA, and the requirements of BOCA code.
- B. Joint Sealing: All longitudinal and lateral duct joints will be sealed with a cotton base, gypsum impregnated tape



and a vinyl acrylic latex adhesive/activator system. This system shall be a non-flammable, non-toxic and Class I UL listed. Use Hardcast, Inc. (ONLY) with DT-5300 tape and FTA-20 activator/adhesive.

- C. Turns shall be made with long radius elbows or shall be square turns with fixed, single wall (ONLY) turning vanes.
- D. Flexible Collars and Connections: Provide flexible collars between fans and ducts. For round ducts, securely fasten flexible connections by zinc-coated steel clinch-type draw-band. For rectangular ducts, lock flexible connections to metal collars. Connections shall be made of Ventglas neoprene coated glass fabric as furnished by Ventfabrics, Inc.
- E. Longitudinal joints shall be Pittsburgh Hammered Lockseam.
- F. Transitions with a slope greater than 7 to 1 will be ordered removed from the system and replaced with a transition which meets this criteria.
- G. Any deviation in the duct system must be submitted as a shop drawing and stamped. Any deviation not submitted and stamped will be ordered removed from the system and replaced with that which is shown on the drawings.

### 3.06 CLOSING IN UNINSPECTED WORK

- A. General: Cover up or enclose work after it has been properly and completely inspected and reviewed.
- B. Noncompliance: Should any of the work be covered up or enclosed prior to required inspections and reviews, uncover the work as required and, after it has been completely inspected and reviewed, make repairs and replacements with such materials as are necessary to the approval of the Architect and at no additional cost to the Owner.

### 3.07 TEST AND ADJUST

- A. Supply and return piping shall be tested with water to a pressure of 75 psi and held for a period of four hours. Any leaks shall be repaired and another test applied to the piping. Piping shall be tested before it is insulated.
- B. Before operating the system, the piping shall be flushed out to remove oil and foreign materials.

- C. After the installation is complete and ready for operation, the system shall be tested under normal operating conditions in the presence of the Engineer and demonstrated that the system functions as designed.
- D. It shall be demonstrated that the heating system has free and noiseless circulation of water and that parts including packing glands are tight.
- E. Should any defects in operation develop during the test periods, correct them immediately and additional tests will then be conducted.

3.08 CLEANING

- A. Prior to acceptance of the work, thoroughly clean exposed portions of the heating and ventilating installation, removing labels and foreign substance.

3.09 INSTRUCTIONS

- A. On completion of the project, provide a competent technician to thoroughly instruct the Owner's representative in the care and operation of the system. The time of instruction shall be arranged with the Owner. In addition to the prime Heating Contractor, the Control Contractor, Balancing Contractor, and Owner's representative shall be present and participate in the Owner's instruction.

3.10 SYSTEM BALANCING

- A. Air balancing: Air handling systems will be balanced at the conclusion of the installation. A complete balance report shall be prepared and submitted for stamping. The report shall clearly indicate the following:
  - 1. System name.
  - 2. Motor hp.
  - 3. Supply voltage.
  - 4. Blower RPM.
  - 5. Total system static pressure.
  - 6. Total system flow rate.
  - 7. Individual terminal flow rates, using Alnor hood (only).
  - 8. Flow rates must show location, model and size of terminal air device.
- B. Water balancing: The entire hydronic heating system shall be balanced using the calibrated balancing devices provided. A complete balance report shall be prepared and submitted for stamping. The report shall provide

information indicating flow rates in mains, branches and terminal unit settings with locations, sizes and other pertinent data clearly indicated.

- C. The balancing shall be done by Yeaton Associates (ONLY).

END OF SECTION

SECTION 16000  
SUPPLEMENTAL ELECTRICAL  
GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Conditions, Division I - General Conditions, Supplemental General Conditions and Instructions to Bidders shall apply to this work. Read these to become familiar with conditions related to the installation of the work.

1.02 WORK SHOWN ON DRAWINGS

- A. The drawings accompanying this specification, as a part thereof, are working drawings indicating the location and arrangement of the increments of the systems of this section of work. Material deviation from this arrangement, process or means of application, shall bear the Engineer's review stamp before the change is made on the job or materials are ordered. Changes made without such review shall be ordered removed and items installed as specified shall be provided at no additional expense to the Owner.
- B. The drawings are not intended to show in minute detail minor items of installation or materials such as specific fittings or findings.
- C. Record drawings of changes to the contract drawings shall be kept during construction, and one clean set of prints neatly marked in red ink shall given to the Engineer upon completion of the project, for the Owner's use.

1.03 MATERIALS AND LABOR

- A. Furnish materials and labor necessary to deliver to the Owner a complete and operable system installed in accordance with the contract documents including but not restricted to the following:
  - 1. Fixtures and lamps.
  - 2. Wiring devices and plates.
  - 3. Equipment connections.
  - 4. Interior telephone and computer conduit and cable.
  - 5. Panels and switches.
  - 6. Emergency lighting.
  - 7. Record documents of "as-built" construction.
  - 8. Empty conduit for Owner/tenant use.

9. A.C. inverter.

- B. Materials shall be of the best quality. Workmanship shall be of highest grade and construction shall be done according to best practices of the trade.
- C. Provide, when required, labeled samples of material or equipment specified herein or proposed to be used in this work.
- D. Where words "furnish", "provide", or "install" are mentioned, either singly or in combination, these words are hereby interpreted to mean "furnish and install" or "provide and install", including materials complete with connections, supplemental devices, accessories and appurtenances, unless specifically otherwise noted. These words are likewise hereby interpreted as being prefixed to materials, equipment, and apparatus hereinafter mentioned, either in abbreviated or scheduled information or in the technical sections of the specifications.

1.04 GENERAL REQUIREMENTS

- A. Visit the building to determine the extent of work to be completed in the existing building. Additional compensation for failing to examine the site shall not be acceptable.
- B. Coordinate work with the progress of the building and other trades and complete work as soon as conditions permit to minimize interruptions of building functions. Any compensation for overtime hours worked or additional costs incurred due to lack of or improper coordination with other trades or the Owners shall not be acceptable.
- C. Waste material shall be removed daily from the premises. Material and equipment stored on the premises shall be kept neat and orderly. No materials shall be stored where exposed to adverse weather conditions.
- D. Erect and maintain necessary safeguards for the protection of life and property of Owner, workers, staff, and the public.

1.05 COOPERATION BETWEEN TRADES

- A. Provide information sufficiently in advance of this work, so that work by the other trades may be coordinated and installed without delays. Furnish and locate sleeves, supports, anchors and necessary access panels.

- B. Where work is concealed, assure that it does not project beyond finished lines of floors, ceilings, or walls.

1.06 VISITING THE PREMISES

- A. Visit the building and examine existing conditions before submitting bid.

1.07 ORDINANCES, AUTHORITIES, PERMITS, AND FEES

- A. Obtain necessary permits and licenses, pay fees and charges, give notices and comply with laws, ordinances, rules, regulations or orders affecting the work.
- B. The "authority having jurisdiction" is the organization, office, or individual responsible for "approving" equipment, an installation, or a procedure.

1.08 PROTECTION OF WORK AND MATERIALS

- A. Protect and care for materials delivered and work performed until the completion of the work. Defective equipment or equipment damaged in the course of storage, installation or test shall be replaced or repaired at no additional cost to the Owner.

1.09 SAFETY REGULATIONS

- A. Work shall conform to the requirements of the Occupational Safety and Health Act (OSHA) of 1970, including Amendments.

1.10 INSURANCE

- A. Purchase and maintain Workmen's Compensation Insurance, Public Liability and Property Insurance during the progress of the work and until completion and acceptance of the entire project by the Owner in the amounts as specified in the General Conditions.

1.11 APPLICABLE CODES

- A. Work and materials shall conform to the latest rules and regulations listed below and these rules and regulations hereby are made part of this specification. They include, but are not necessarily limited to the following:

American Society for Testing and Materials (ASTM)  
Underwriters' Laboratories, Inc. (UL)  
National Electrical Manufacturers Association (NEMA)  
Institute of Electrical and Electronics Engineers (IEEE)  
American National Standards Institute (ANSI)

National Fire Protection Association (NFPA)  
Local and State Fire Codes  
The Board of Fire Underwriters  
Building Officials Code Administration (BOCA)  
Office of Safety and Health Administration (OSHA)  
National Electric Code (current edition).  
State Department of Public Safety.

1.12 SHOP DRAWINGS

- A. Submit shop drawings, manufacturers' data and certificates for equipment, materials and finish, and pertinent details for each system where specified in each individual section, five (5) copies, to be submitted. Shop drawings will be returned "No Exceptions Taken", "Make Corrections Noted", "Revise and Resubmit", "Rejected", or "Submit as Specified", less two (2) copies. Work shall progress in accordance with "Reviewed" shop drawings (ONLY).
- B. Groups of similar shop drawings shall be submitted as individual bound documents with covers and indexes.
- C. Shop drawings must bear the Engineer's review stamp. In the event that the Engineer rejects shop drawings, the shop drawing must be revised and resubmitted for review.
- D. Furnishing of the specified item must still produce the results and performance, dependability and quality reasonably to be expected within the spirit of the specifications, drawings, and the standard of good electrical performance normal to the trade.
- E. Repeated malfunctioning or failure in service of any item of work of the system is sufficient cause for the Engineer to order the removal of the item, and its replacement with new item at the expense of the Contractor.

1.13 SUBSTITUTIONS

- A. Where the specifications allow the substitution of a product, still this product is subject to review by the Engineer in accordance with the paragraph entitled "Shop Drawings". Review of a substitute item is an indication only that the substitute item is compatible with the specified item as a claim of the manufacturer. Insure dimensional propriety, performance, and quality of the substitute item.
- B. Reference in the specifications or on the drawings to any product, material, fixture, form or type of construction, by proprietary name, manufacturer, make or catalog number, establishes a standard of quality or design and is not

meant to limit competition. Use any equivalent substitute provided favorable written review by the Engineer is first obtained. The (ONLY) notation in the specification is an exception to this and leaves no option.

- C. For the purpose of avoiding conflicts with other trades, contracts, and adjoining work where more than one (1) article, device, material, fixture, form or proprietary name, manufacturer, make or catalog number, the first named shall be used as the basis of design and details. The cost of any changes because of substituted item shall be borne by the Contractor requesting such change.

## PART II - EXECUTION

### 2.01 REMOVALS AND RELOCATIONS

- A. Removals shall be performed without damage to adjacent retained work; however, where such work is damaged, patch, repair, or otherwise restore adjacent retained work to its original condition. Existing materials, fixtures, and equipment which have been removed or disconnected but are not indicated or specified for reuse in the new work shall be removed from the site at no expense to the Owner. Removals shall be as indicated, and shall be performed in a neat and workmanlike manner to the limits indicated or specified, or to the minimum extent necessary or required for the proper installation of new work. Existing surfaces remaining after removals to which new work is to be applied shall be left in a condition suitable for the application of the new work.
- B. Relocations shall be as indicated and shall be performed by workmen skilled in the trade involved. The removal and reinstallation of relocated items shall be performed in a neat and workmanlike manner and items to be relocated which are damaged shall be repaired or replaced with new items as reviewed by the Engineer. The cost of relocations in order to install new work shall be included as part of the contract bid price. Relocations shall include associated wiring, controls, fixtures, hangers, and supports.
- C. Patching: Where removals leave holes and damaged surfaces that will be exposed in the finished work, these holes and damaged surfaces shall be patched and repaired to match adjacent finished surfaces. Where new work is to be applied for existing surfaces, removals and patching shall produce surfaces that are suitable for the provision of the new work. Patching shall be performed by workmen skilled in the trade involved and shall be performed in a



neat and workmanlike manner. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the texture and finish of existing adjacent surface as closely as possible.

2.02 ELEVATIONS

- A. Establish and maintain elevations in connection with this work.

2.03 EQUIPMENT SUPPORTS

- A. Furnish and install equipment supports for electrical equipment as required. Supports shall be subject to review by the Engineer.

2.04 SLEEVES AND PREPARED OPENINGS

- A. Furnish sleeves and coordinate cutting, patching and setting of sleeves, with other trades.
- B. Failure to give timely notice of and to locate openings and furnish sleeves shall cause no additional expense to the Owner.

2.05 ACCESS TO EQUIPMENT

- A. The installation of work performed shall provide reasonable accessibility for operation, inspection, and maintenance of equipment and accessories. The Engineer shall determine the adequacy of such accessibility.

2.06 LUBRICATION

- A. Furnish initial charges of lubricants for equipment. Lubricants shall be in conformance with the manufacturer's requirements and recommendations.

2.07 CLEANING OF SYSTEMS

- A. Keep the premises free from accumulation of waste material or rubbish and at the completion of the work, remove from the job site tools, scaffolding, surplus materials, and rubbish, leaving the work areas "broom" clean.
- B. Clean electrical equipment upon completion of work.

2.08 STARTING OF EQUIPMENT

- A. Testing or starting of equipment shall be done in collaboration with trades concerned to insure safe and proper operation of the equipment.

- B. Prior to starting equipment, provide lubrication at required points. Before starting any electrical or electric motor driven equipment, a check shall be made to insure that proper heater coils are installed in the starters and that the equipment is rotating in the proper direction.

#### 2.09 OPERATIONAL TESTING

- A. Operate systems until successful operation is demonstrated to the Engineer. This initial operation shall be in addition to the testing of the system and shall be done after the interior wiring system installation is completed, and at such time as the Engineer or Owner may direct, conduct an operating test. The test shall be performed in the presence of the Owner, Engineer, or their authorized representative. Furnish instruments and personnel required for the tests, and the Owner will furnish the necessary electric power.

#### 2.10 RECORD DRAWINGS

- A. During construction, keep an accurate record of deviations to the installation of the work as indicated on the drawings. Upon completion of the work, furnish a copy of this record to the Engineer. Submit record drawings before requesting final payment.

#### 2.11 MANUFACTURER'S REPRESENTATIVE

- A. As indicated in the Technical Sections of this specification or as directed by the Engineer, provide with no additional compensation the services of a factory trained Engineer or Technician to inspect, adjust, and place in proper operating condition the equipment or item involved.

#### 2.12 MANUFACTURER'S INSTRUCTIONS, OPERATION AND MAINTENANCE DATA

- A. Provide for each item of equipment or apparatus furnished, a complete set of printed instructions obtained from the manufacturer covering proper operation, maintenance, lubrication, cleaning, servicing, adjustment, and safety instructions.
- B. Manufacturer's data shall include complete parts lists, recommended spare parts lists, and wiring diagrams.
- C. Arrange data in complete sets, properly indexed and marked.

- D. Data shall include a complete set of shop drawings.
- E. Material shall first be submitted in preliminary form for review by the Architect. After review, submit two (2) copies in bound volumes to the Architect for distribution.

2.13 GUARANTEES

- A. An item becomes "defective" when it ceases to conform to the Contract Documents. Guarantees begin on the date of substantial completion with the Owner taking occupancy or beneficial use thereafter.
- B. Upon completion of the work and before applying for final payment, furnish a written guarantee, stating that the work complies with the provisions of codes listed herein and the local enforcing authorities, and that it will be free from defects of material and workmanship for not less than one (1) year. Guarantee shall further state that the Contractor will, at his own expense, repair or replace any of his material and work which may become defective during the time of guarantee, together with other work damaged as a consequence of such defects.
- C. Where special guarantees, covering installation, operation or performance of any systems, or equipment furnished under are indicated, the full responsibility for the fulfillment of such guarantees shall be assumed by the Contractor who shall obtain written guarantees in triplicate, two (2) copies of which shall be filed with the Engineer before final acceptance.

2.14 EXISTING UTILITIES AND EQUIPMENT

- A. Care shall be taken to protect or replace damaged existing utilities. Information indicated in the contract documents is the best information available as to the location of underground and concealed utilities and equipment.

\* END OF SECTION \*

SECTION 16010  
ELECTRICAL

PART 1 GENERAL

- 1.01 DESCRIPTION: The work covered by this Section of the specifications includes the furnishing of labor, materials, equipment, transportation, permits, inspections and incidentals and the performing of operations required to install a complete and functional electrical system, as indicated.
- 1.02 GENERAL REQUIREMENTS: The provisions of Section 16000 "General Electrical" are made a part of this section.
- A. Substitutions: Your attention is directed to Section 16000-1.13.A., B., C., and D. relative to competition and the (ONLY) notation. Familiarity with this section should be achieved before reading the PRODUCTS section of this specification.
- 1.03 SUBMITTALS
- A. The items for which the shop drawings paragraph in Section 16000, "General Electrical", apply are as follows:
1. Switches.
  2. Receptacles.
  3. Control devices.
  4. Wiring devices.
  5. Lighting fixtures.
  6. Photometrics.
  7. Fire alarm.
  8. Computer and telephone cable.
  9. A.C. inverter.

PART 2 - PRODUCTS

- 2.01 ELECTRIC MOTORS, STARTERS AND CONTROLS, AND MOTOR CONTROLS
- A. Unless otherwise noted, motors will be furnished with driven equipment.
- B. Motors shall be built in accordance with the latest applicable NEMA, IEEE and ANSI Standards. Motors shall be of the latest type and quality specified under individual items of equipment.

- C. Magnetic motor starters for mechanical items of equipment shall be furnished under the electrical section of these specifications unless otherwise noted in individual equipment specifications. Overload heater elements shall be furnished with the starters. Starters shall be equipped with suitable step-down transformers to provide required control voltage. Starters shall be furnished with a "hand-off-auto" switch in cover.
- D. Motors 2 HP and larger shall be high efficiency type with a minimum continuous duty service factor of 1.15.
- E. Furnish and install where indicated on the drawings, magnetic controllers of a size indicated. (See Equipment Connections).
- F. Cabinet boxes for control devices shall be constructed of zinc-coated sheet steel and shall conform to the requirements of Underwriter's Laboratories, Inc., Standard for cabinets and cutout boxes. Box shall be zinc-coated after fabrication. Trim shall have a baked-on primer coat and baked enamel finish. Each panel shall be fitted with hinged door and metal frame on inside with neatly typed directory, identifying each circuit, mounted under clear plastic. Circuit breakers and directory shall be correspondingly identified.

#### 2.02 RACEWAYS AND FITTINGS

- A. Wiring in masonry walls shall be run in electrical metallic tubing.
- B. EMT or armored cable may be used in areas other than masonry walls. When cable is used, cable shall have a separate grounding wire within the sheath, i.e., the sheaths shall not be considered as the ground.
- C. Connectors for EMT conduit shall be threaded, compression type. Set-screw type connectors for 1" and smaller are not be permitted.

#### 2.03 CONDUCTORS

- A. A complete system of conductors shall be installed in the raceway systems. Line voltage branch circuit conductors shall be #12 AWG, copper, minimum. Home runs over 100 feet shall be #10 AWG minimum.
- B. Conductors shall be thermoplastic insulated, Type THW, THWN, THHN or XHHW (where permissible).
- C. Wire shall be copper.

- D. Control and alarm conductors shall be copper with minimum size #16.

2.04 SERVICE ENTRANCE AND DISTRIBUTION

- A. The service equipment is existing to remain as shown on the drawings.
- B. Furnish and install where indicated on the drawings, disconnect switches sized as indicated.
- C. Switches shall be heavy duty type, Square D, ITE, General Electric or Westinghouse.

2.05 WIRING DEVICES

- A. Furnish and install receptacles and switches, as follows:
  1. Wall Switches: Circle F, 3420; Leviton, 5521; Arrowhart, 1991; GE, 5951-1G (-2G), Ivory.
  2. Duplex Receptacles: Circle F, 2532; Leviton, 5800; Arrowhart, 5735-S; GE, 5352-1 (-2), Ivory.
  3. Indicating red pilot lamps for switches similar to Arrowhart 2999R, 120 volt only.
  4. Switch and receptacle plates shall be ivory bakelite.
  5. Provide devices and plates for outlets including telephone outlets where shown on plan.
  6. Junction box covers satin metallic.

2.06 LIGHTING FIXTURES

- A. Provide complete interior and exterior lighting systems, including fixtures, standards, poles, hangers, supports, fittings, lamps, wiring, connections and controls, as indicated in the Contract Documents.
- B. The lighting layouts on the Drawings are diagrammatic only. Fixtures, in general, have been specified for the particular type of ceiling in which they are to be installed. Verify the ceiling construction details and provide fixtures suitable for the respective ceiling types.
- C. Manufacturer's lighting fixture catalog numbers as indicated on the "Lighting Fixture Schedule" indicate quality, type, and style, but may not cover special

details as noted in the "Lighting Fixture Schedule" and as required for proper installations.

- D. Verify the availability of fixtures proposed to be used in the execution of the work prior to submitting same for the Engineer's review. The discontinuance of production of any fixture after such submission has been made shall not relieve the Contractor from furnishing an equivalent alternate fixture of comparable quality and design without additional cost to the Owner.
- E. Fixtures shall be new and bear the UL label for the service intended.
- F. Lighting fixtures shall be standard products of manufacturer regularly engaged in the manufacture of the specific type lighting fixture specified as one of their principle products and shall be manufacturer's latest standard design that complies with specification requirements.
- G. Lighting fixtures shall be as specified in the "Lighting Fixture Schedule". Although only one manufacturer has been named, the phrase "or equivalent" may be applied to each fixture listed, unless otherwise noted. The Engineer reserves the right to disapprove any fixture type submitted which is, in the Engineer's opinion, not equivalent in quality, appearance or performance to the fixture specified.
- H. Fluorescent ballasts shall be high power factor type and ETL certified under CBM specifications. Ballasts shall be Type P , energy efficient type.
- I. Fixtures shall have lamps of wattage noted and shall be of the incandescent filament inside frost type, or SPX35 fluorescent type. Lamps shall be 125 volt energy saving type and compatible with ballasts and extended life type.
- J. Recessed fixtures shall include thermal protection and shall be identified as thermally protected.
- K. Fluorescent fixtures shall be rapid start type.

#### 2.07 TELEPHONE SYSTEM

- A. Provide telephone and computer conduit and outlets as shown on the drawings and as herein specified.

2.08 ELECTRICAL DEVICES IN PARTITIONS

- A. Partitions that are furnished for renovated spaces will be furnished with a self contained wireway and required boxes and devices built into the structure.
- B. This partition will be wired by others from the junction box shown on plan, this project shall include a four gang outlet box with a blank cover and necessary wiring for telephone, computer and power. (See detail on Plan).

2.09 EMPTY CONDUIT FOR FUTURE USE

- A. There are special conduit systems for Owner/tenant use. These systems shall be complete with a number 10 AWG wire for pulling cables at a future date.
  - 1. Two 4" PVC conduits are to be installed from the 5th floor west wing down to the first floor storage area, see detail on Plan (Drawing E-3).
  - 2. Empty conduit for future use to be installed as shown on plan for camera cable use from Press Area rooms to the terminal box in storage area of west wing.
  - 3. Empty conduit and boxes for a future sound system to be installed as shown on Drawing E-2. Cable and devices are not in this contract.

PART 3 - EXECUTION

3.01 RACEWAYS AND FITTINGS

- A. Outlets shall be installed in the locations shown on the drawings. Study the general building plans in relation to the spaces surrounding each outlet in order that his work may fit the other work required by these specifications.
- B. When necessary, relocate outlets so that, when fixtures or other fittings are installed they will be symmetrically located according to room layout and will not interfere with other work or equipment. Cast metal or cadmium plated sheet steel boxes, of a class to satisfy the conditions for each outlet, shall be used. Boxes shall be installed in a rigid and satisfactory manner, either by wood screws on wood work, (wall mounted boxes in wood construction may be nailed) expansion shields on masonry, or machine screws on steel work. Fixture outlet boxes at ceilings shall be of the 4" octagonal type. Telephone outlet boxes shall be not less than 4" square fitted with appropriate plaster rings to set flush mounted. One piece



gang boxes not less than 2" deep shall be utilized where possible.

- C. Conduit systems shall be installed in accordance with the applicable provisions of the National Electrical Code. Electric metallic tubing shall be installed in accordance with provisions of the National Electric Code.
- D. Conduits shall be kept at least 8 inches from parallel runs of hot water pipes. Exposed runs of conduit shall have supports spaced not more than 6 feet apart and shall be installed with runs parallel or perpendicular to walls, structural members or intersections of vertical planes, and ceilings, with right-angle turns consisting of cast-metal fittings or symmetrical bends. Bends and offsets shall be avoided where possible, but where necessary, shall be made with an approved hickey or conduit bending machine. The use of a pipe tee or vise for bending conduit is not permitted. Conduit which has been crushed or deformed in any way shall not be installed. Expansion fittings or other UL approved devices shall be used to provide for expansion and contraction where conduit crosses expansion joints.
- E. Wooden plugs inserted in masonry or concrete shall not be used as a base to fasten conduit supports. Conduits shall be supported on galvanized wall brackets, ceiling trapeze, strap hangers, or pipe straps, secured by means of toggle bolts on hollow masonry units or expansion bolts in concrete or brick and machine screws on metal surfaces. Nails shall not be used as means of fastening boxes or conduit.
- F. Conduit shall be installed in a manner to insure against the collection of condensation. Exercise the necessary precautions to prevent the lodgement of dirt, plaster, or water in conduit, fittings, and boxes during the course of installation. A run of conduit which has become clogged shall be entirely freed of these accumulations, or shall be replaced.
- G. Conduit shall be securely fastened to cast or sheet metal outlet, junction, and pull boxes with galvanized locknuts and bushings, care being observed to see that the full number of threads project through to permit the bushing to pull tight against the end of conduit, after which the locknut shall be made up sufficiently tight to draw the bushing into firm electrical contact with the box. Wiring shall be installed in telephone system conduits unless otherwise specified.

3.02 CONDUCTORS

- A. Home runs may be combined in one conduit, provided connections are in accordance with National Electric Code requirements, and the maximum unbalanced current in the neutral does not exceed the capacity of the conductor. Conductors shall be continuous from outlet to outlet, and no splices shall be made except within outlet of junction boxes. Junction boxes may be utilized wherever required or as shown on the drawings.
- B. Wire connectors, insulating material or solderless pressure connectors, properly taped, shall be utilized for splices in wiring.

3.03 EQUIPMENT CONNECTIONS

- A. Equipment connections shall be made with liquid tight flexible metal conduit. Controllers for motor, disconnect switches and control, protective, and signal devices for motor circuits shall be connected and left in operating condition. The number and size of conductors between motors and control or protective apparatus shall be as shown on the plans or recommended by the manufacturer of the apparatus. Where equipment is furnished and installed by other trades for connection to the electrical system, work shall conform to the National Electric Code requirements.

3.04 GROUNDING

- A. Run a separate grounding wire to outlets.
- B. Ground wire secured under conduit bushings or cable clamps will not be permitted.
- C. Mechanical connections shall be made at equipment only.
- D. Equip exposed "pigtailed" or grounding electrodes with an armored sheath.

3.05 SWITCHES AND RECEPTACLES: Flush mounted unless noted otherwise.

3.06 CHAIR LIFT

- A. The Lift Contractor shall furnish and erect motors for the lift equipment.
- B. Provide and install wiring to the lift interlocks as indicated on the Drawings, to be supplied by others.

- C. Furnish and install disconnects as indicated on the drawings.
- D. Furnish and install (1) A.C. inverter 1250 VA at 120 volt input and output unit to be fast transfer free standing, equal to Chloride Cat. No. CQM-1250.

END OF SECTION

LEGAL NOTICE

NOTICE TO CONTRACTORS

PHASE II RENOVATIONS  
STATE HOUSE  
Augusta, Maine

Sealed Proposals will be received from General Contract Bidders addressed to:

State of Maine Legislature,  
c/o Sarah C. Diamond  
Executive Director of the Legislative Council  
Bureau of Public Improvements  
State House Station 77,  
Augusta, Maine 04333.

Bids will be received until Tuesday, August 9, 1988 at 2:00 P.M. in Room 334, State Capitol Building, at which time they will be publicly opened and read aloud.

**PROJECT DESCRIPTION:** Work of the proposed Contract consists of an addition to form a new media communications center; renovations of spaces currently occupied by the media; and renovations of certain other interior spaces, consisting of approximately 2,100 square feet of new construction and 5,240 feet of renovations. Work includes sitework, general construction, plumbing, heating and ventilation and electrical work, in accordance with Plans and Specifications as prepared by Moore/Weinrich Architects, 14 Maine Street, Suite 401, Brunswick, ME 04011.

**BIDDING DOCUMENTS:** The complete Bidding Documents, consisting of Advertisement for Bids, Instructions to Bidders, Bid Forms, General Conditions, Supplemental General Conditions, Contract Forms, Drawings, Specifications, and Addenda (if any), may be obtained after 12 noon on July 20, 1988, from:

Moore/Weinrich Architects  
14 Maine Street (Fort Andross Building), Suite 401  
Brunswick, ME 04011  
(207) 729-1636

A set of the Bidding Documents may be obtained upon deposit of \$50.00 per set as well as a non-refundable postage and handling charge of \$15.00 per set. Payments shall be made in form of separate checks for deposit and handling costs, each made payable to Moore/Weinrich Architects. No partial sets will be issued. Upon receipt of checks for deposit and handling costs, documents may be picked up at Architect's office when available; or if requested Architect will send documents UPS express charges collect.

General bidders submitting bona fide bids will be reimbursed the full amount of the deposit upon return of the COMPLETE SETS UNMARKED AND IN GOOD CONDITION WITHIN 14 DAYS OF BID OPENING.



2:05

Politzer + Baumgarten  
Bismarck

Bid Bond \$ 512,800  
1 + 2 additional  
submitted on  
Dec 14, 1988

Lee Violet and Sons. Bid Bond \$ 654,900  
1 + 2 additional

Deeg Corp Bid Bond 527,620  
1 + 2

D. T. Pallen Bid Bond 558,485  
1 + 2

Harper Const. Bid Bond \$ 574,000  
1 + 2

Kemper Brothers Bid Bond \$ 616,000  
1 + 2

got by 547,000



SARAH C. DIAMOND  
EXECUTIVE DIRECTOR  
OF THE LEGISLATIVE COUNCIL

JOHN H. BAILEY  
INFORMATION SYSTEMS  
DIRECTOR

RICHARD N. SAWYER, JR.  
ADMINISTRATIVE SERVICES  
DIRECTOR



MAINE STATE LEGISLATURE  
OFFICE OF THE EXECUTIVE DIRECTOR  
LEGISLATIVE COUNCIL

August 8, 1988

TO: All Legislative Offices  
FROM: Sally *Sally*  
SUBJECT: Asbestos Removal

As most of you know, we are about to embark on a variety of renovation projects in the State House. The major project involves transformation of the former Paint Shop into a new facility for the State House press corps.

The first phase of the work in the Paint Shop involves removal of pipes, many of which contain asbestos. This project will take place over the next couple of weeks under the supervision of BPI and a contractor, Allied Architects/Engineers. The work area will be completely closed off; thus, there is virtually no hazard to those of us who work here.

I just wanted to let you know what was going on and would be happy to answer any additional questions you may have.





# IRS INC.

## INDEPENDENT ROOF SERVICES

RFD 1 / BOX 201 / POWNAL, MAINE 04069 / TELEPHONE: 207-688-4770

September 6, 1988

Ms Sarah C. Diamond  
Executive Director Legislative Council  
State House Station 115  
Augusta, Maine 04333

Dear Sally:

Per your order, G & E Roofing will proceed with emergency temporary repairs to the roof of the West Wing. They will patch splits in the roof membrane with fiberglass fabric and flashing cement and caulk open joints in copper flashing using a construction grade caulking that they have on hand. They will also remove debris from the plugged drains along the eaves.

This work is scheduled to be done during the week of September 5-9, 1988. Have Roseann carefully check for leaks after the repairs have been done. Should any be found, call G & E Roofing immediately.

It is my understanding that you want me to investigate the existing roof of the West Wing only and make recommendations for repair or replacement and projected costs for budget considerations. A copy of my report is to be sent to Mr. Burt of Moore/Weinrich Architects. My services would be billed directly to the State of Maine C/O your office at the rate of \$50.00/hr. plus \$0.25/mi. for any related travel.

This initial report will not include job specifications or drawings for use in soliciting bids. I will propose two or three possible options and give their relative merits and projected costs. I will also tell you which option I would recommend and my reasons.

If the above description of services is not what you intended, please call. Unless I hear otherwise, I will proceed with my investigation on or about the 12th of September and will try to



have my report submitted by the 30th of September.

Thank you for this order.

Very truly yours,  
Independent Roof Services, Inc.

*Walter E. Barschdorf*  
Walter E. Barschdorf, Pres.



SARAH C. DIAMOND  
EXECUTIVE DIRECTOR  
OF THE LEGISLATIVE COUNCIL

JOHN H. BAILEY  
INFORMATION SYSTEMS  
DIRECTOR

RICHARD N. SAWYER, JR.  
ADMINISTRATIVE SERVICES  
DIRECTOR



REVISOR OF STATUTES

1988 OCT 19 A 8:12

MAINE STATE LEGISLATURE  
OFFICE OF THE EXECUTIVE DIRECTOR  
LEGISLATIVE COUNCIL

October 18, 1988

TO: Richard B. Thompson, Jr.  
Deputy State Purchasing Agent

FROM: Sarah C. Diamond *S. Diamond*  
Executive Director of the Legislative Council

SUBJECT: Requisitions for Systems Furniture

This will confirm our recent discussion regarding the systems furniture which we are in the process of acquiring for various legislative spaces.

In assessing the furnishing requirements of the various spaces in the State House and the options available, we worked closely with Earle Shettleworth, the Director of the Historic Preservation Commission. Earle is, as you know, also the Chair of the newly-created State Capitol Commission. He and David Silsby, who will be staffing the Commission for the Legislature, have worked to develop standards for furnishing in various areas of the State House. The standards relate to the character and quality of furnishings and the areas have been classified according to their function (ceremonial v. working office); their level of access to the public; and their location in the State House. It is the Commission's intent to use these standards throughout future work in the State House.

The requisition which specifies Steelecase's Valencia line includes third floor areas and the Senate Retiring Room. We have specified this line only after reviewing several systems lines. Our review included looking at actual installations with representatives from 3 instate vendors: Transco, Roberts, and Loring Short & Harmon

Earle, David and I would all be happy to answer any questions you may have. Again, we truly appreciate the time and thought you and Janice Thomas have contributed to this effort.

cc: Earl Shettleworth, Director, Historic Preservation  
Commission  
David Silsby, Director, State Capitol Commission



MOORE/WEINRICH ARCHITECTS  
14 MAINE STREET, SUITE 401  
BRUNSWICK, MAINE 04011

PHASE II RENOVATIONS  
STATE HOUSE  
AUGUSTA, MAINE

JULY 28, 1988  
ADDENDUM NO. 1

This Addendum revises the Drawings and/or Specifications as described below and becomes a part of the Contract Documents.

The Contractor will be held to do all work required for the full completion of the work described, including all work incidental thereto or necessary to complete the work properly, even though not specifically mentioned.

The original General Conditions, and Supplemental Conditions shall govern for all work unless specifically exempted or modified herein.

INDICATE RECEIPT OF THIS ADDENDUM ON THE FORM FOR GENERAL BID AS REQUIRED.

The following Attachments accompany and form a part of this Addendum:

Attachment No. 1: Construction Access Locations  
Attachment No. 2: Sheet A-2 Basement Floor Plan  
Attachment No. 3: Sheet A-2 Basement Floor Plan  
Attachment No. 4: Sheet A-7 Longitudinal Section  
Attachment No. 5: Sheet A-9 Details - Press Corps  
Attachment No. 6: Sheet S-1 Structural-Main Bldg.  
Attachment No. 7: Sheet E-2 Electrical-Press Corps  
Attachment No. 8: Sheet E-3 Electrical-Press Corps

REVISIONS TO SPECIFICATIONS

Item 1. SECTION SGC, SUPPLEMENTARY GENERAL CONDITIONS

A. Page SGC-7, Subparagraph 9.11.1:

Delete: first sentence.

Substitute: "The date of completion is stated in Section FGB, Form for General Bid."





- Item 2. SECTION 06190, WOOD TRUSSES
- A. Page 2, Add after 2.01C, the following:
- "D. All members shall be No. 1 Grade or better."

- Item 3. SECTION 09680, CARPETING
- A. Page 09680-1, Subparagraph 1.03A (1, 3):
- Delete: 1, 3.
- Substitute:
1. "Type 1 Carpet: Approximately 125 square yards."
  3. "Type 3 Carpet: Approximately 250 square yards."
- B. Page 09680-3, Subparagraph 2.01B (1):
- Delete: "Project."
- Substitute: "each carpet type."

REVISIONS TO DRAWINGS

- Item 1. DRAWING A-1, FLOOR PLANS, MAIN BUILDING
- A. "WALL LEGEND"
- Delete: "Needed" from end of 2nd wall type description.
- Substitute: "Noted."

- Item 2. DRAWING A-5, SCHEDULES-PRESS CORPS-MAIN BUILDING
- A. Finish Schedule - Main Building
- Room #227A
- Delete: "A" from Room #.
- Substitute: "M".
- Room #320
- Under remarks add: "Patch and repair floor, base, walls and ceiling to match existing."



B. Finish Schedule - Press Corps

Room #B101, B105, 102

Delete: "3" from floor materials.

Substitute: "4" in correct column.

Detail 2A, 2B - Delete: "3-5/8" mtl studs", "2-20 GA. studs." respectively.

Substitute: "2 x 4 wd. stud", "2-2 x 4 wd. studs." respectively.

Item 3. DRAWING A-8, DETAILS MAIN BUILDING

A. Detail 2 Chase Wall (typical).

Add: "6" Sound Attenuation Blanket typ."

B. Detail 14 Tile Backsplash.

Delete: " 4" ".

Substitute: "6" (3 - 2" C.M.T.)".

Item 4. DRAWING S-1, FRAMING PLAN & DETAILS, MAIN BUILDING

A. Detail 1 at exterior wall of Capitol (3 locations) shall be revised to 1A/S-1.

Refer to Attachment No. 6.

Item 5. DRAWING S-2, 1ST FLOOR FRAMING PLAN & DETAIL, PRESS CORPS

A. Add Note 11 under Steel as follows:

"11. All Structural steel exposed after construction is complete shall be considered architecturally exposed structural steel and shall be fabricated in accordance with Section 10 of the AISC Code of Standard Practice."

Item 6. DRAWING S-3, ROOF FRAMING PLAN

A. Type "B" prefabricated wood trusses shall be constructed of 2 x 8 chords minimum. The truss bearing shall be designed for field adjustment of the overhang length.



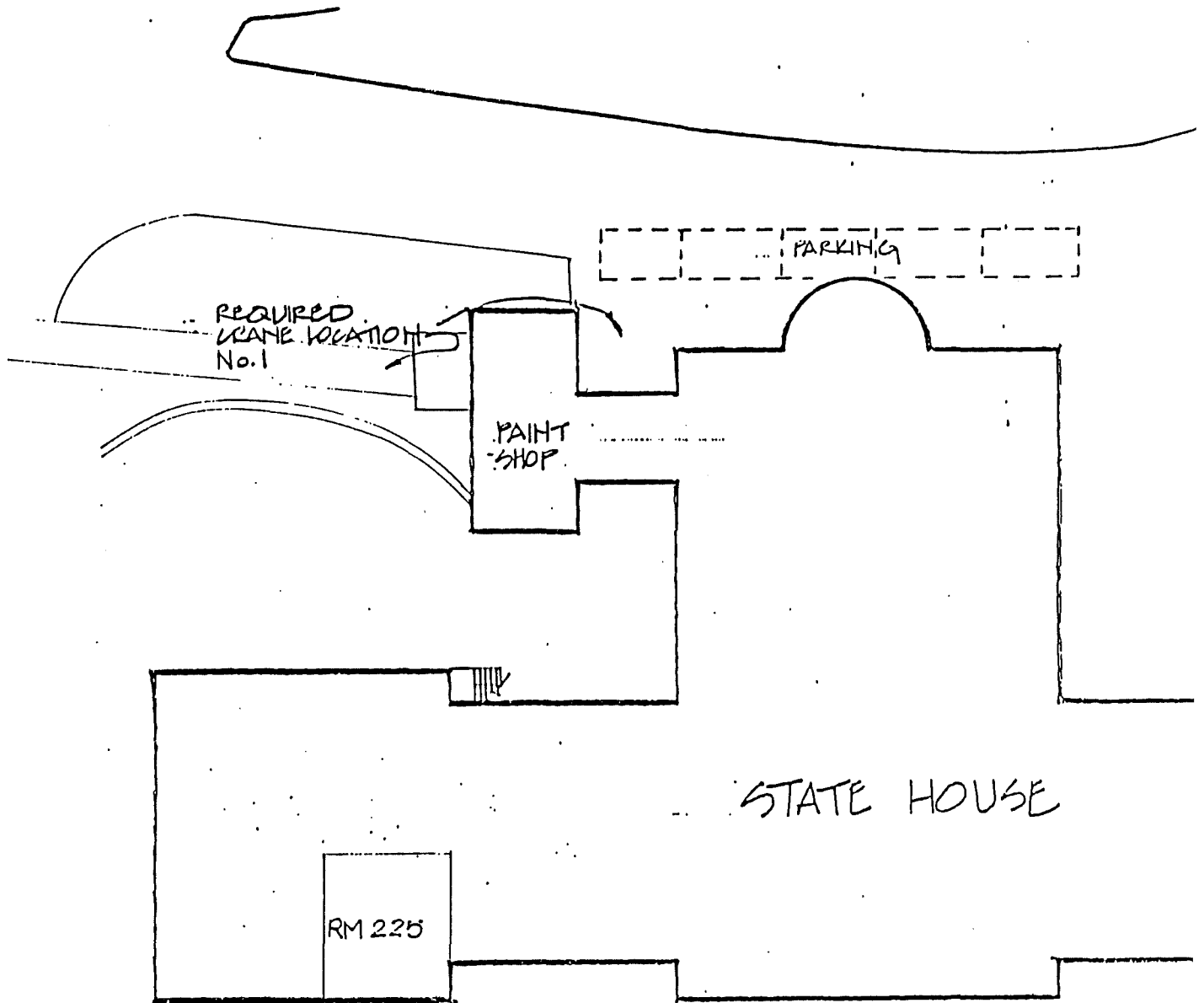
- Item 7. DRAWING E-1, ELECTRICAL MAIN BUILDING
- A. Wall sconce type A (see Lighting Legend) to be mounted at elevation 7'-6" AFF in all rooms except #225, #225A and #225B, mount at elevation 7'-0" AFF.
- Item 8. DRAWING E-2, ELECTRICAL - PRESS CORPS
- A. Furnish and install (4) bollard lights Bega Cat. #96435 - 50 watt H.P.S. and related wiring (see Attachment No. 7.)
- B. Delete fixture type K shown on Drawing E2 (at press corps entrance.)

CLARIFICATIONS

- Item 1. See Attachment No. 8 fire alarm riser. (For clarification only.)

END OF ADDENDUM NO. 1

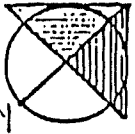




REQUIRED CRANE LOCATION No. 2

CONSTRUCTION ACCESS LOCATIONS

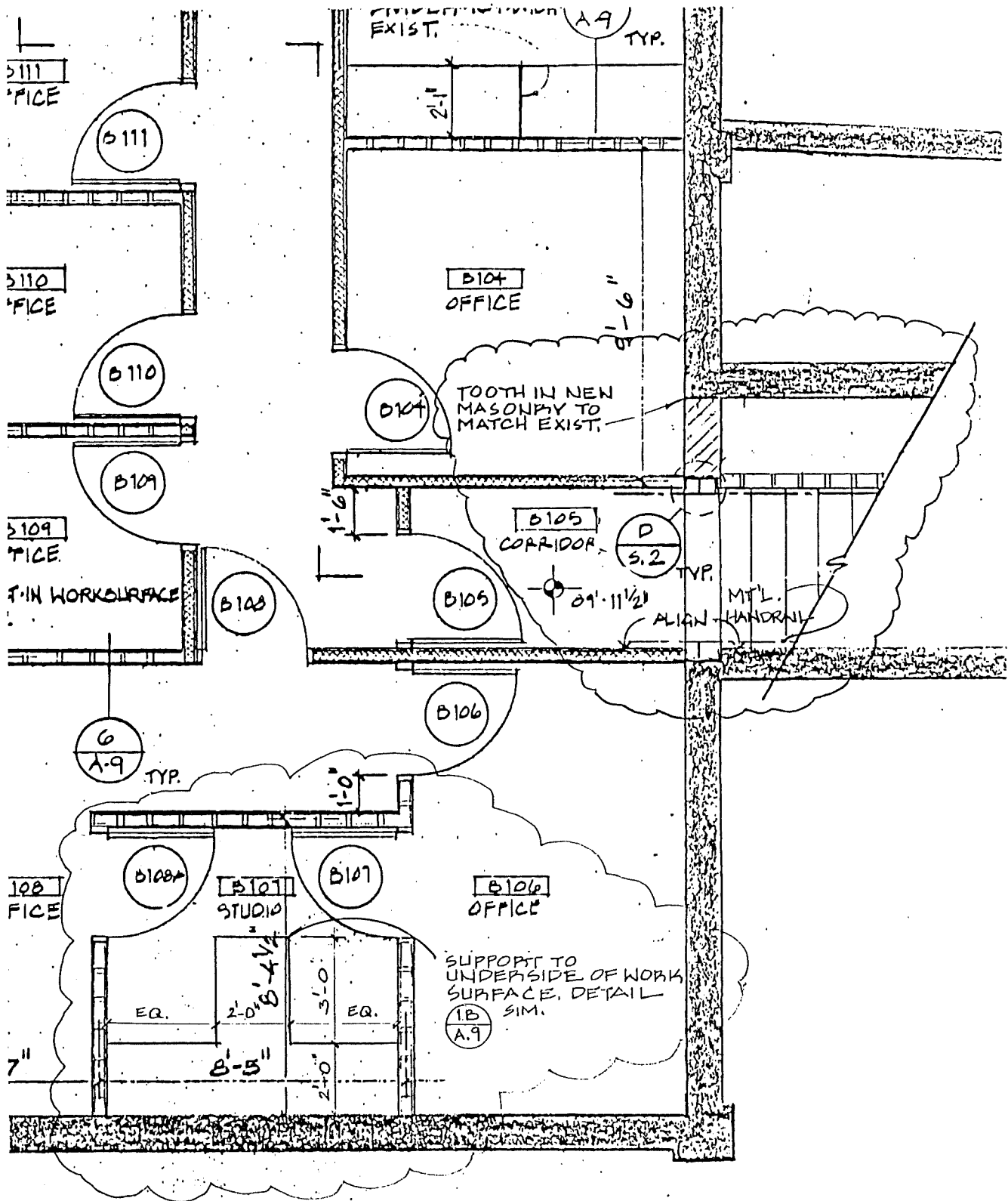
N.T.S.



<p>Title CONSTRUCTION ACCESS LOCATIONS STATE HOUSE, AUGUSTA ME.</p>	<p>Job no. 8812 Date 7-29-85 Scale N.T.S.</p>	<p>MOORE/WEINRICH ARCHITECTS 14 MAINE ST. SUITE 401 BRUNSWICK, MAINE 207-729-6636 0-011</p>	<p>Sheet no. ATTACH. NO. 1</p>
---	---	---	--

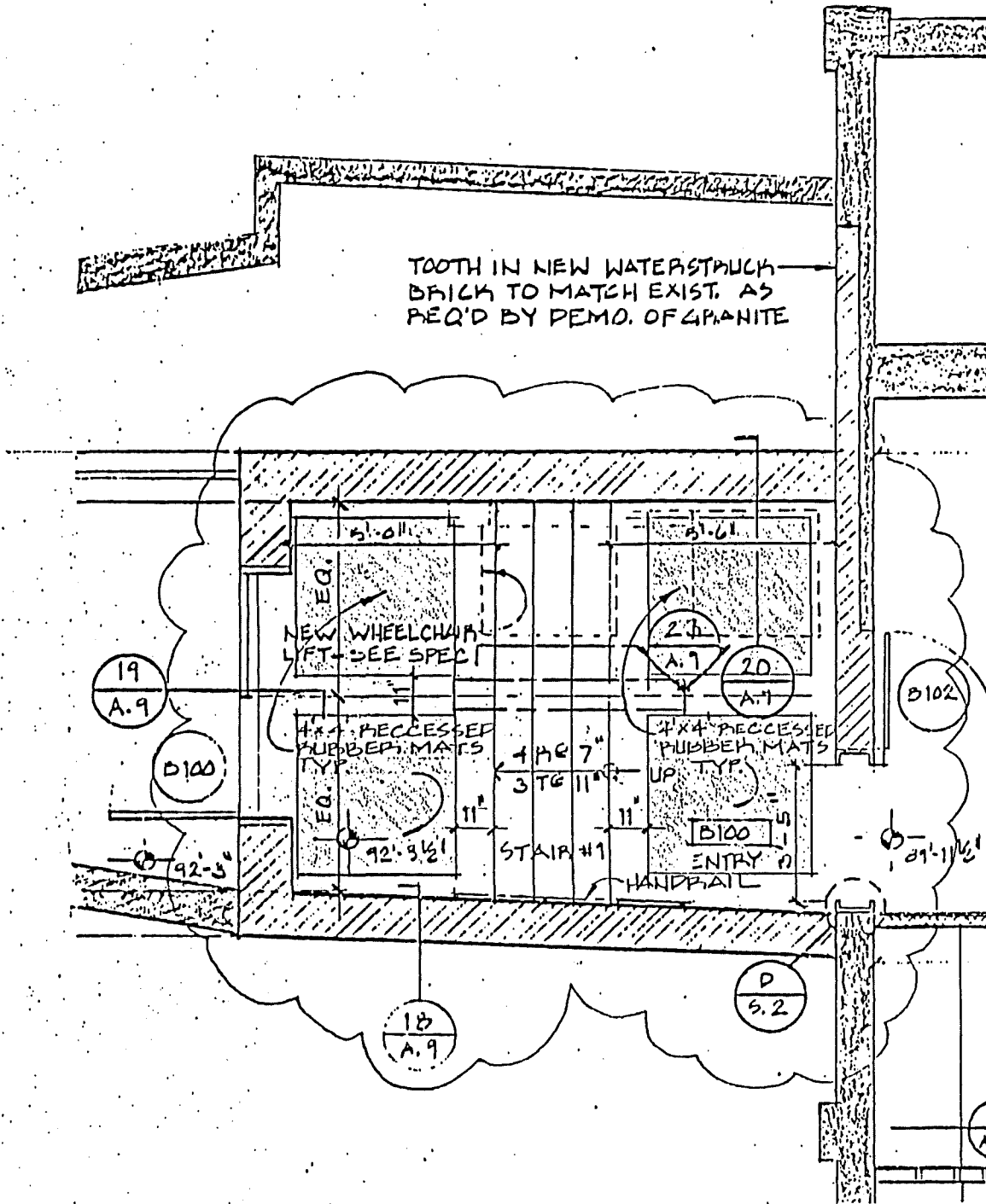






<p>Title          BASEMENT FLOOR PLAN-PRESS CORP          SHT A.2 REVISIONS          STATE HOUSE, AUGUSTA ME</p>	<p>Job no. 8812          Date 7-29-88          Scale N.T.S.</p>	<p>MOORE/WEINRICH ARCHITECTS          14 MAINE ST. SUITE 401 BRUNSWICK, MAINE          207-729-1636 04011</p>	<p>Sheet no.          ATTACH.          NO. 2</p>
--	---	---	--





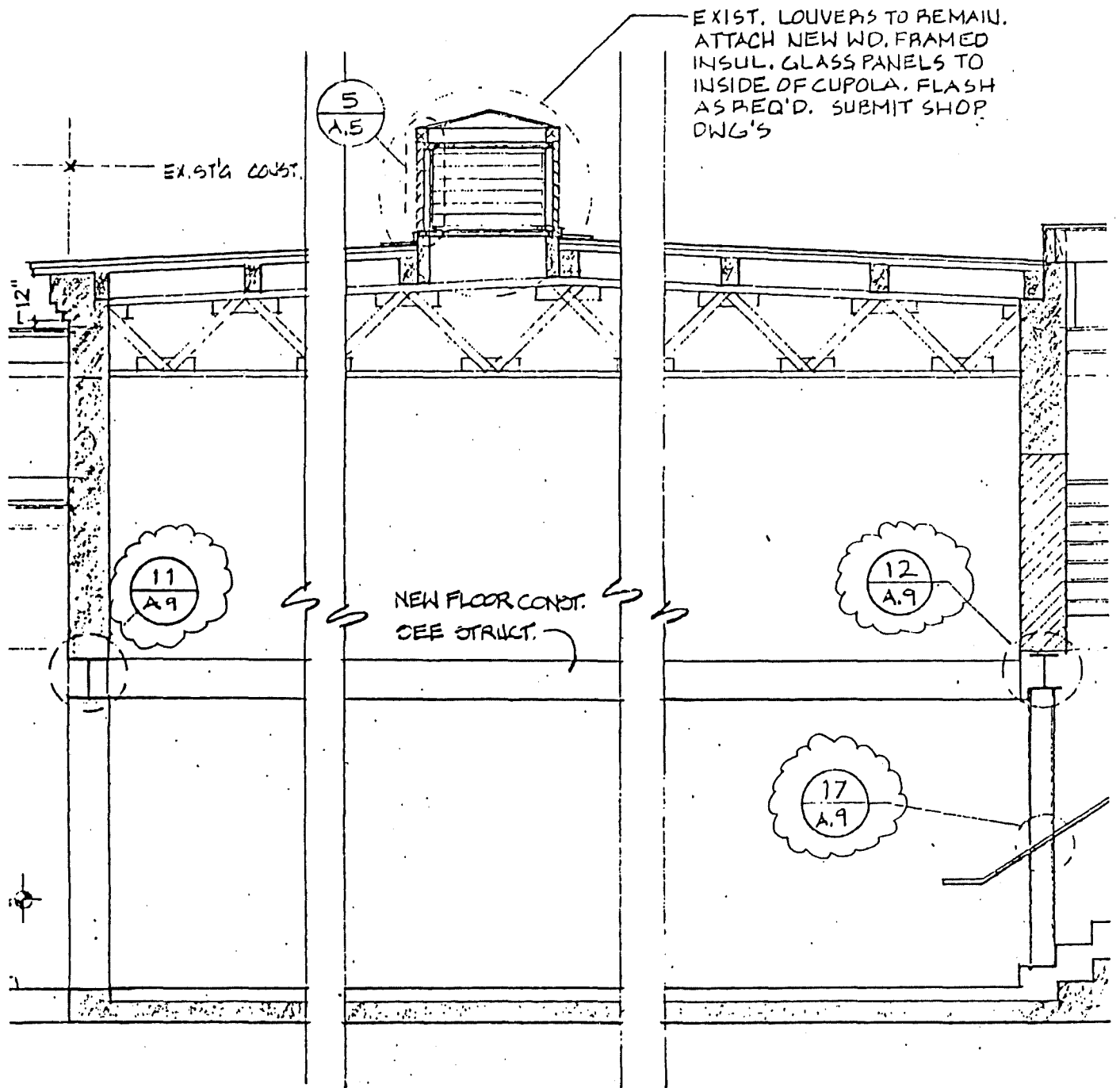
Title PARTIAL BASEMENT FLOOR PLAN  
 -PRESS CORP- SHT A.2 RM. B100  
 REVISIONS  
 STATE HOUSE, AUGUSTA ME

Job no. 8812  
 Date 7-29-88  
 Scale N.T.S.

MOORE/WEINRICH ARCHITECTS  
 14 MAINE ST. SUITE 401 BRUNSWICK, MAINE 04211  
 207-728-1636

Sheet no. ATTACH  
 NO. 3





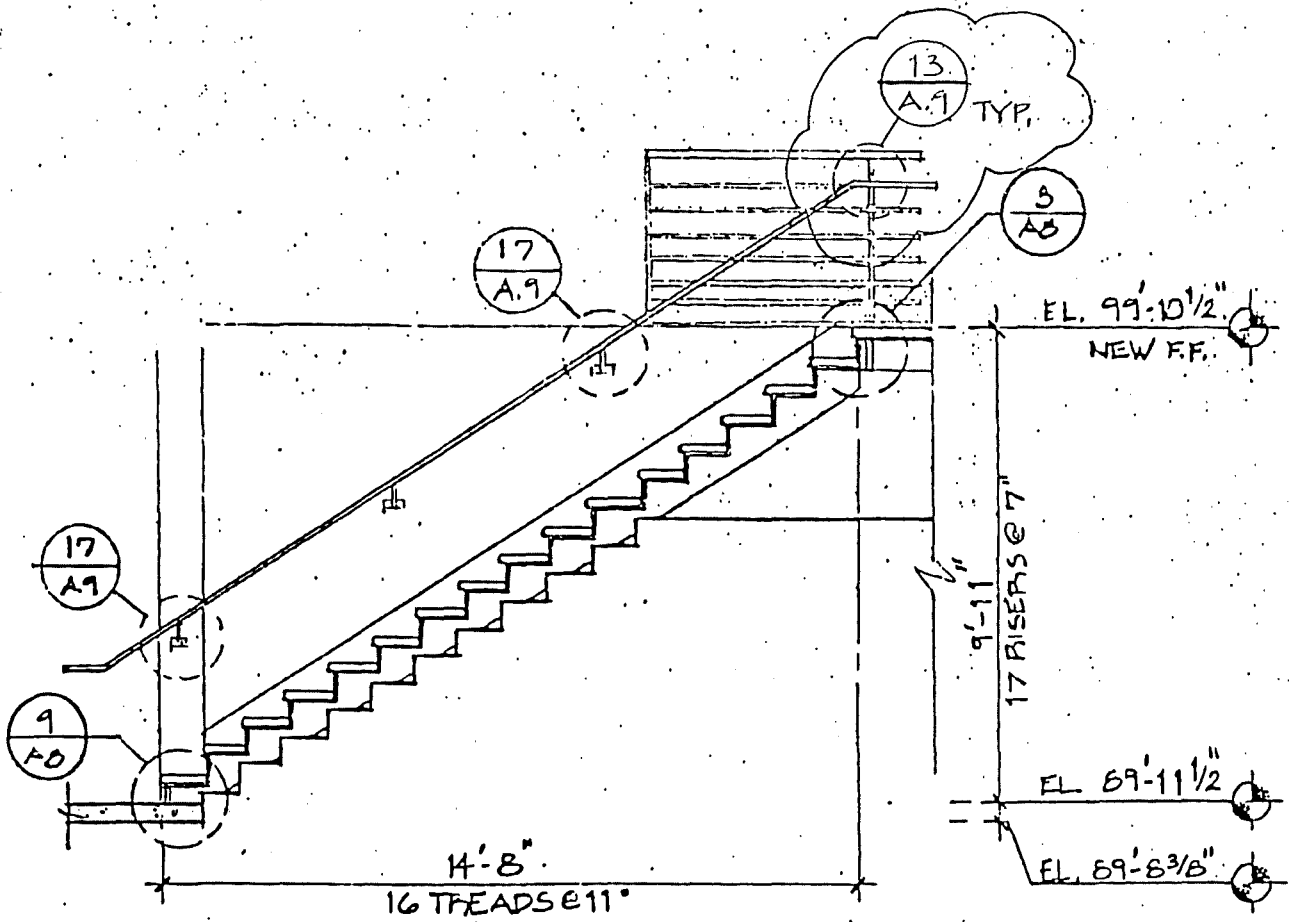
Title PARTIAL LONGITUDINAL SECTION PRESS CORP. SHT. A.7 REF. NO. 2  
 DETAIL PREFERENCE NO.'S  
 STATE HOUSE, AUGUSTA ME

Job no. 8812  
 Date 7-29-88  
 Scale N.T.S.

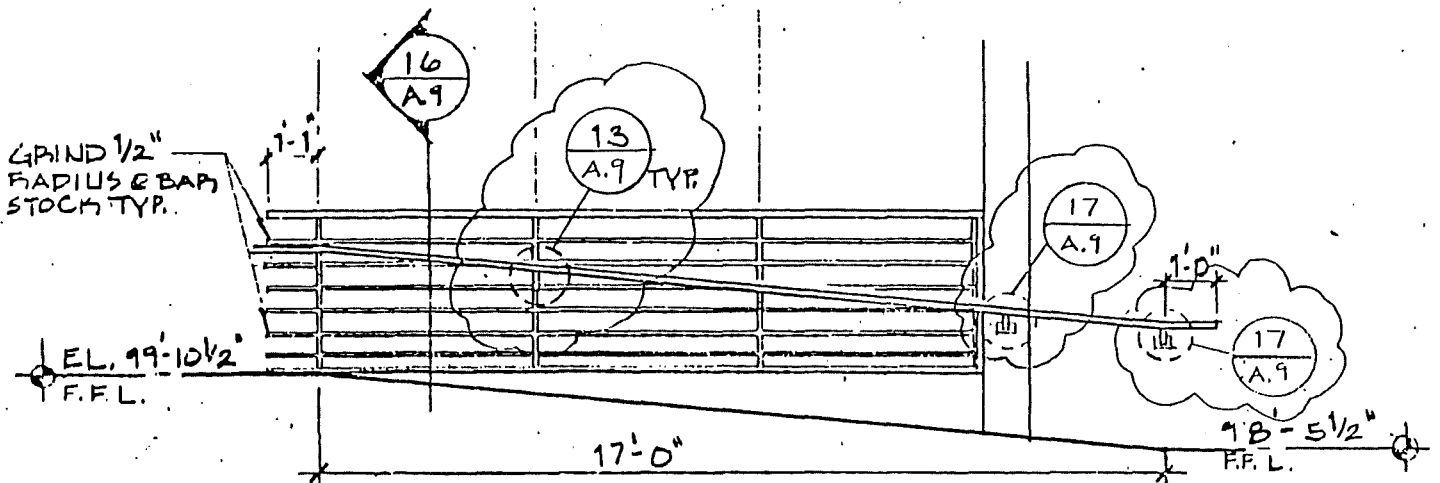
MOORE/WEINRICH ARCHITECTS  
 14 MAINE ST. SUITE 401 BRUNSWICK, MAINE 04011  
 207-729-1636

Sheet no.  
 ATTACH  
 No. 4





4 SECTION STAIR # 2  
 1/4" = 1'-0"

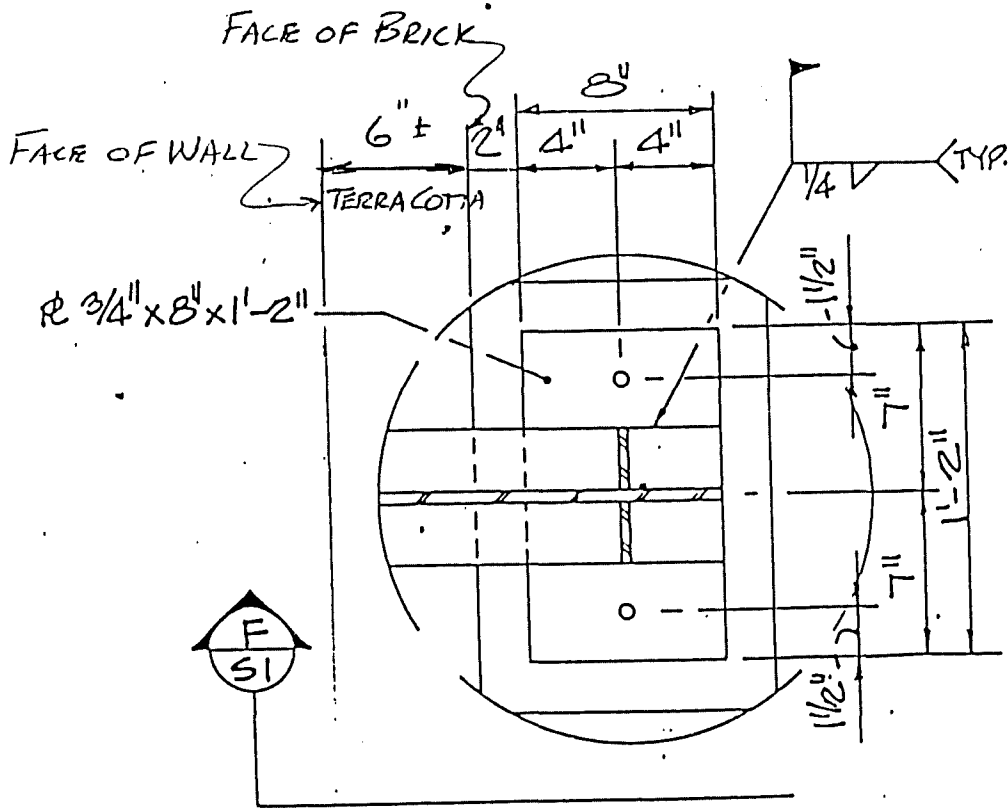


14 RAMP SECTION  
 1/4" = 1'-0"

<p>Title          SECTION STAIR # 2 SHT. A.9 REF. 4          RAMP SECTION SHT. A.9 REF. 14          STATE HOUSE, AUGUSTA, ME</p>	<p>Job no. 8812          Date 7.29.80          Scale N.T.S.</p>	<p>MOORE/WEINRICH ARCHITECTS          14 MAINE ST. SUITE 401          BAUNSWICK, MAINE 04011          207-729-6336</p>	<p>Sheet no.          ATTACH.          NO. 5</p>
--	---	--	--







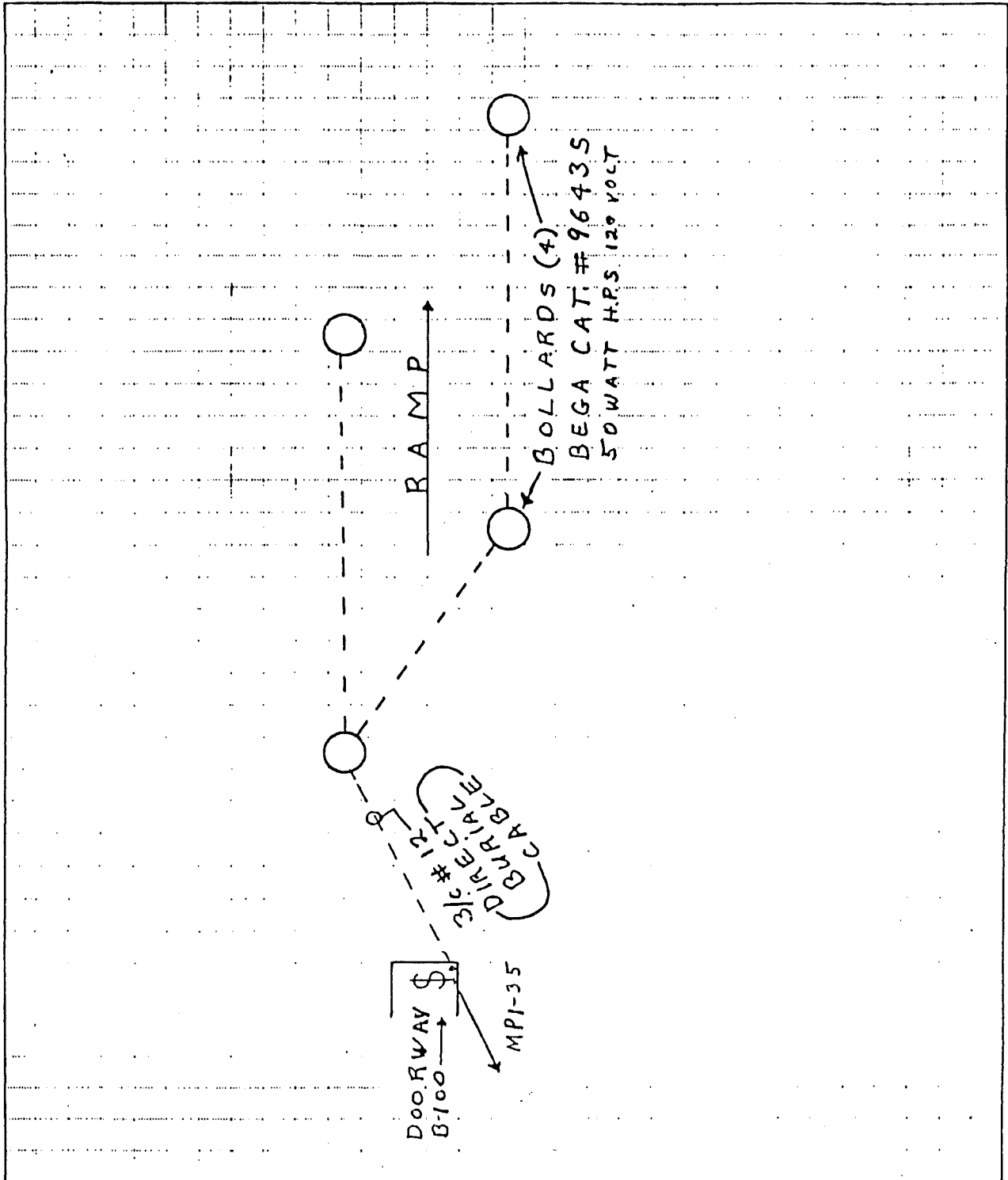
(1a) DETAIL  
 SI 1 1/2" = 1'-0"

Title STRUCTURAL - MAIN BLDG. STATE HOUSE, AUGUSTA ME.	Job no. 2012 Date 7.29.08 Scale N.T.S.	MOORE/WEINRICH ARCHITECTS 34 MAIN ST. SUITE 401 BRUNSWICK, MAINE 207-729-6316 04011	Sheet no. ATTACH. No. 6
--	--	---	-------------------------------



**BENNETT ENGINEERING, INC.**  
 Bennett Road P.O. Box 297  
 FREEPORT, MAINE 04032  
 Phone 865-9475

JOB CAPITOL RENOV.  
 SHEET NO. SK-E1 OF \_\_\_\_\_  
 CALCULATED BY AML DATE 7-26-88  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE ADDENDA ITEM #2

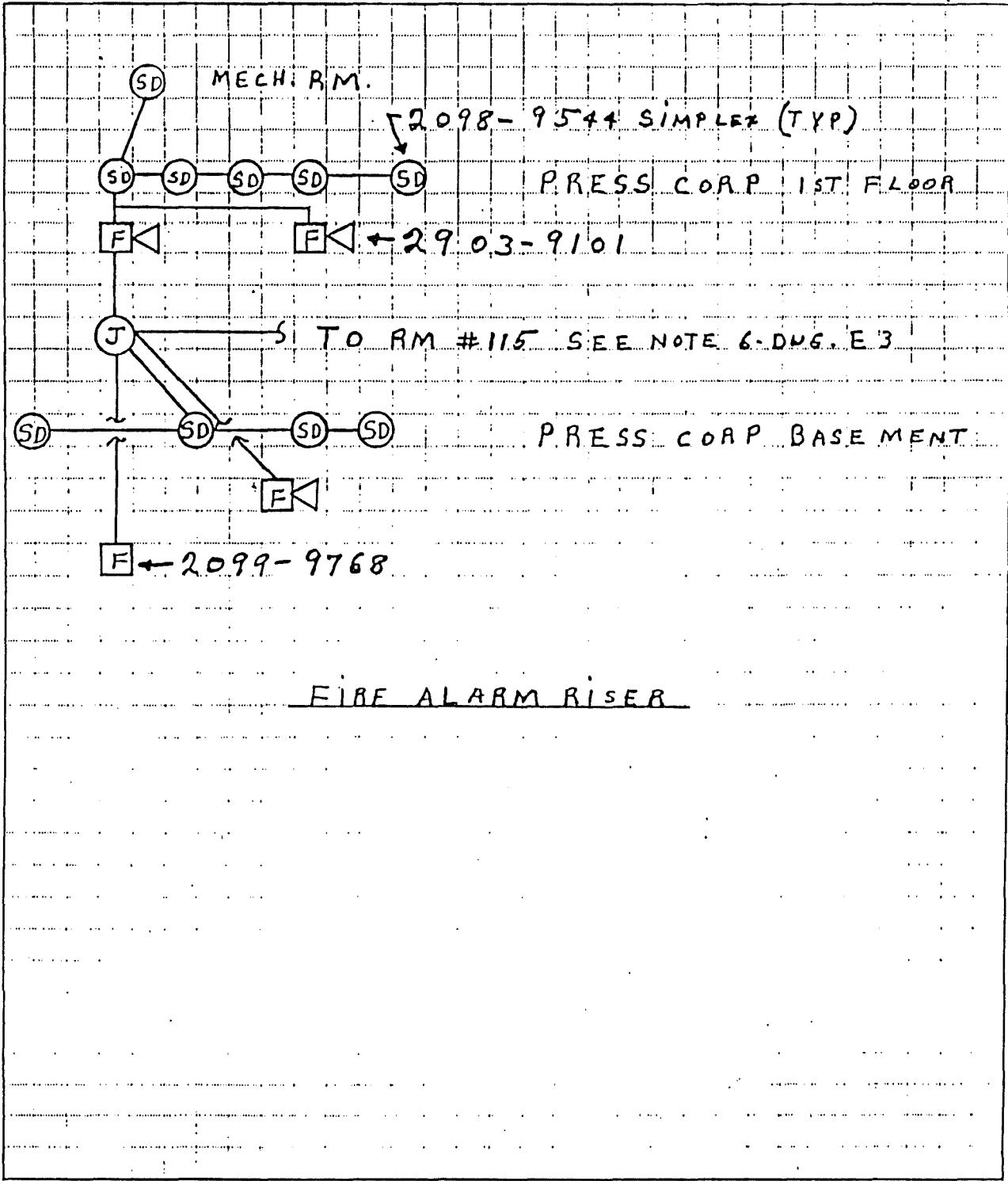


Title ELECTRICAL - PRESS CORPS STATE HOUSE, AUGUSTA, ME.	Job no. 8012 Date 7.29.88 Scale N.T.S.	MOORE/WEINRICH ARCHITECTS 14 HAZARD ST. SUITE 401 BRUNSWICK, MAINE 04011 207-729-4336	Sheet no. ATTACH. No. 7
--	--	---	-------------------------------



**BENNETT ENGINEERING, INC.**  
 Bennett Road P.O. Box 297  
 FREEPORT, MAINE 04032  
 Phone 865-9475

JOB CAPITOL BUILDING  
 SHEET NO. SK-E2 OF \_\_\_\_\_  
 CALCULATED BY AML DATE 7-26-88  
 CHECKED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SCALE APPENDIX ITEM #1



Title ELECTRICAL - PRESS CORPS STATE HOUSE, AUGUSTA ME.	Job no. <u>8812</u> Date <u>7.29.88</u> Scale <u>N.T.S.</u>	MOORE/WEINRICH ARCHITECTS 11 MAINE ST. SUITE 401 BRUNSWICK, MAINE 04011 507-729-6116	Sheet no. ATTACH. No. <u>8</u>
---	---	--	--------------------------------------



MOORE/WEINRICH ARCHITECTS  
14 MAINE STREET, SUITE 401  
BRUNSWICK, MAINE 04011

PHASE II RENOVATIONS  
STATE HOUSE  
AUGUSTA, MAINE

August 4, 1988  
ADDENDUM NO. 2

This Addendum revises the Drawings and/or Specifications as described below and becomes a part of the Contract Documents.

The Contractor will be held to do all work required for the full completion of the work described, including all work incidental thereto or necessary to complete the work properly, even though not specifically mentioned.

The original General Conditions, and Supplemental Conditions shall govern for all work unless specifically exempted or modified herein.

INDICATE RECEIPT OF THIS ADDENDUM ON THE FORM FOR GENERAL BID AS REQUIRED.

The following Attachments accompany and form a part of this Addendum:

- Attachment No. 1: Sheet D-2 Demolition Roof Plan-Press Corps
- Attachment No. 2: Sheet D-2 Demolition Plan-Press Corps
- Attachment No. 3: Sheet D-2 Detail - Press Corps

#### REVISIONS TO SPECIFICATIONS

- Item 1. SECTION IB, INSTRUCTIONS TO BIDDERS
  - A. Page IB-2 Subparagrph 5A, Bid Security:  
Add: Security shall be five (5) per cent of the Total Base Bid.
- Item 2. SECTION 07176, ACRYLIC EMULSION EXTERIOR MASONRY COATING
  - A. Page 07176-3, Part 3 - Execution  
Subparagraph A:  
Add: "Sandblasting will not be permitted."





REVISIONS TO DRAWINGS

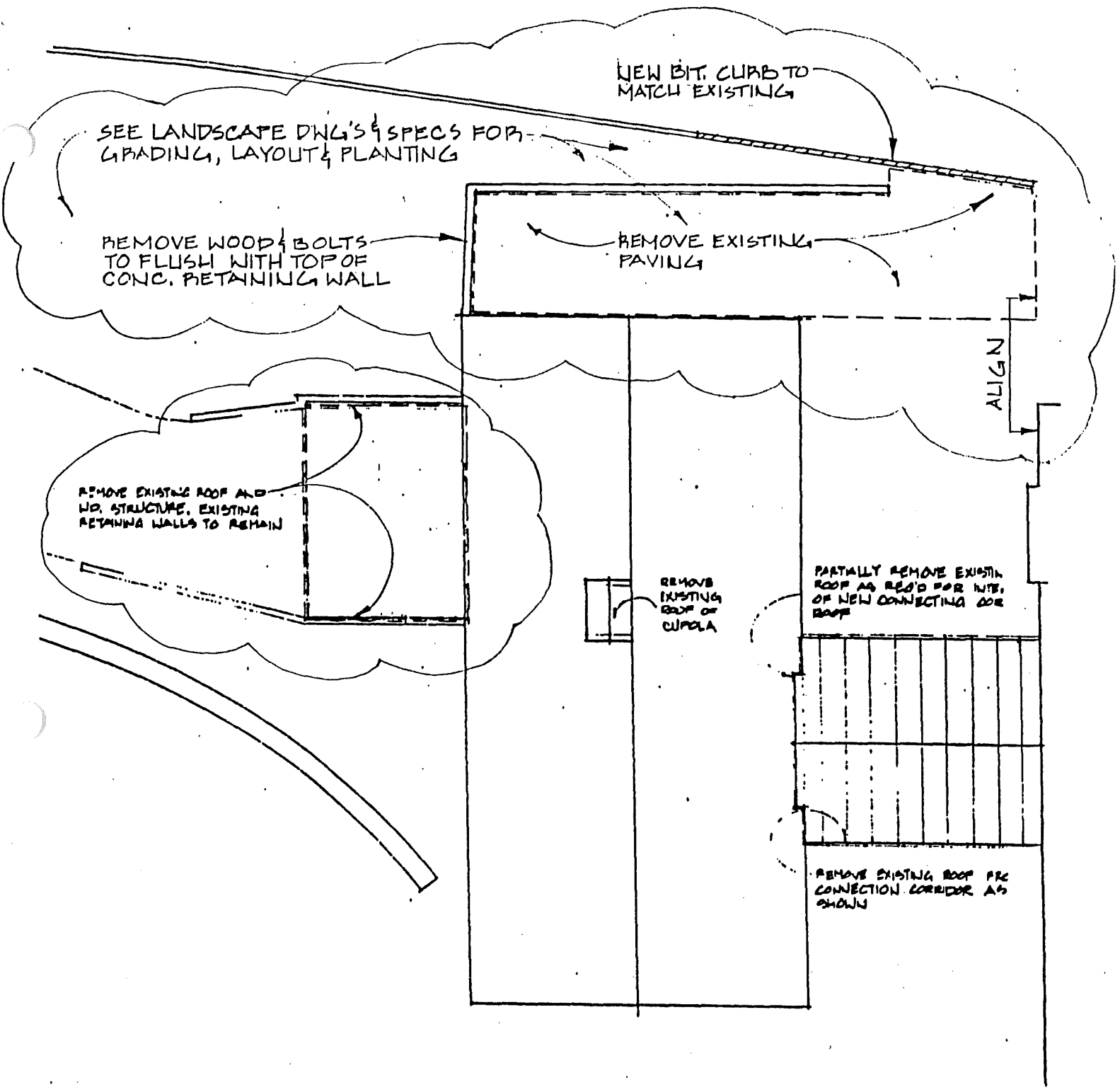
- Item 1. DRAWING L-2, PLANTING-PRESS CORPS
- A. Add General Note:
- "Unless otherwise specified, all areas within limits of disturbance shall be loamed and seeded. (Refer to Section 02900 of Project Manual)."
- Item 2. DRAWING A-5, SCHEDULES-PRESS CORPS-MAIN BUILDING
- A. Finish Schedule - Main Building
- Room #316
- Delete: "4" from Floor Materials and "1" from Base Materials.
- Add: "2" and "2" respectively in correct columns.
- B. Finish Schedule - Press Corps
- Room #100, #101
- Delete: "1" from Base Materials.
- Substitute: "2" in correct columns.

CLARIFICATIONS

- Item 1. DRAWING L-1, LAYOUT & GRADING
- Note: Transition curbs are vertical granite curbs that tie into new proposed curbs.

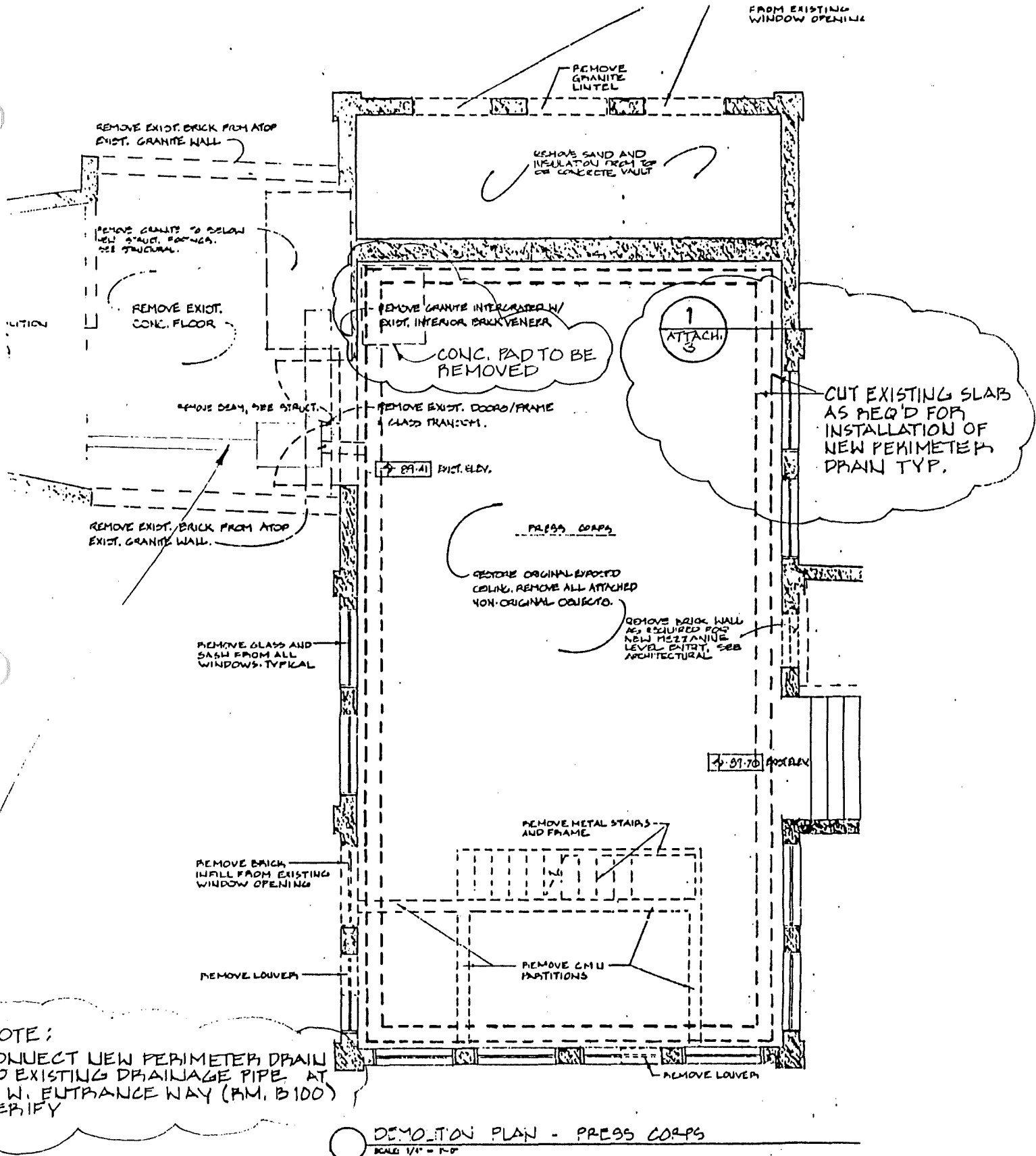
END OF ADDENDUM NO. 2





<p><b>TITLE REVISIONS</b></p> <p><b>EMOLITION ROOF PLAN - PRESS CORPS</b></p> <p><b>SHT. D.2</b></p>	<p><b>JOB NO. 8812</b></p> <p><b>DATE 8.4.88</b></p> <p><b>SCALE N.T.S.</b></p>	<p><b>MOORE/WEINRICH ARCHITECTS</b>          14 MAINE ST. SUITE 401 BRUNSWICK, ME 04011          207-729-1636</p>	<p><b>SHEET NO.</b></p> <p><b>ATTACH.</b></p> <p><b>1</b></p>
--	---	---	---



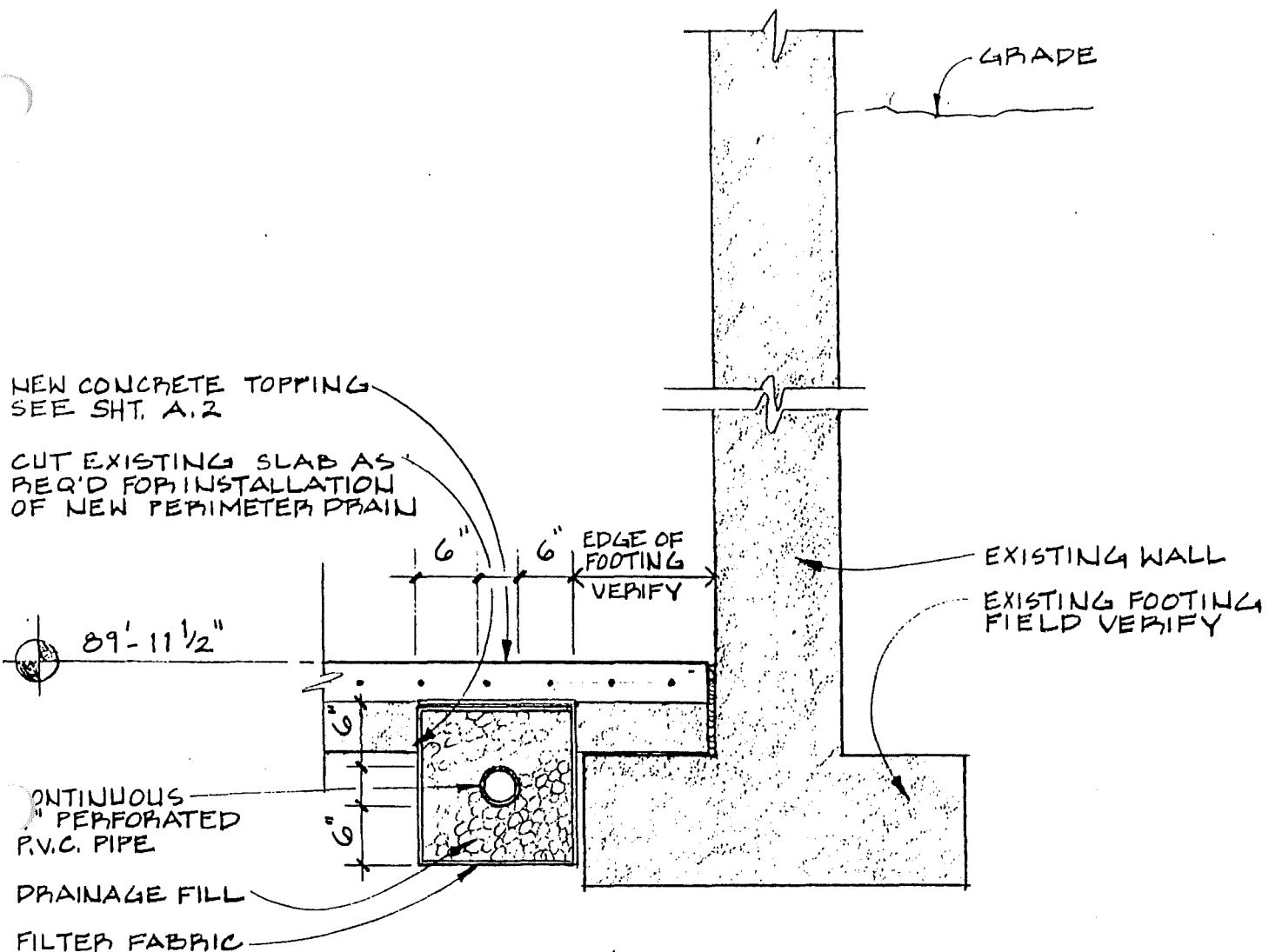


NOTE:  
 CONNECT NEW PERIMETER DRAIN  
 TO EXISTING DRAINAGE PIPE AT  
 S.W. ENTRANCE WAY (RM. B100)  
 VERIFY

DEMOLITION PLAN - PRESS CORPS  
 SCALE 1/4" = 1'-0"

TITLE REVISIONS DEMOLITION PLAN - PRESS CORPS SHT. D.2	JOB NO 8812 DATE 8.4.88 SCALE N.T.S.	MOORE/WEINRICH ARCHITECTS 14 MAINE ST. SUITE 401 BRUNSWICK, ME 04011 207-729-1636	SHEET NO. ATTACH. 2
--	--	---	---------------------------





**NOTE:**  
CONNECT NEW PERIMETER DRAIN  
TO EXISTING DRAINAGE PIPE LOCATED  
AT S.W. ENTRANCE WAY, (RM B100)  
VERIFY

1

**INTERIOR PERIMETER DRAIN**

<p>TITLE: <b>DETAIL</b></p> <p><b>PRESS CORPS BUILDING</b></p> <p><b>SHT D.2</b></p>	<p>JOB NO. <b>8812</b></p> <p>DATE <b>8.4.88</b></p> <p>SCALE <b>3/4" = 1'-0"</b></p>	<p><b>MOORE/WEINRICH ARCHITECTS</b> 14 MAINE ST. SUITE 401 BRUNSWICK, ME 04011 207-729-1636</p>	<p>SHEET NO. <b>ATTACH.</b></p> <p><b>3</b></p>
--	---	---	---





MINUTES

PHASE II RENOVATIONS  
State House, Augusta  
September 29, 1988

Attendees:

Sally Diamond	State of Maine
David Silsby	State of Maine
Fred Gay	Pelletier & Flanagan
Rick Rothbacher	Pelletier & Flanagan
Bill Barrett	Pelletier & Flanagan
Don Routt	Moore/Weinrich Architects
George Nichols	Moore/Weinrich Architects
Richard Burt	Moore/Weinrich Architects
Gregory Dungan	Moore/Weinrich Architects

1. Job Progress/Schedule

Rick Rothbacher said they were on schedule except for delays due to asbestos. Requested 10 day extension.

Contractor told to put request in writing with justifications for extension and clarification as to project areas affected.

Sally Diamond needs one week notice before work is started on Rooms 227 and 337.

2. Line of Communication

Clarification of Don Routt's role as liaison between Owner and Contractor as Architect's representative.

Don Routt is to notify Sally Diamond's office immediately in case of any disruption of utility service, or any other disturbance affecting the State House.

3. Finishes/Samples

Architect requested that Contractor submit three sets of color samples of all materials. Samples should be submitted as soon as possible in order to provide Owner and Architect adequate review time.



4. Lead Time Items/Substitutions

Contractor urged to submit long lead time items immediately, again due to Architect and Owner review time requirements. Substitutions will not be entertained at a later date, nor claims of time extensions due to a products unavailability. Pelletier and Flanagan see no problem with any material's unavailability or delivery at this time.

No substitution to the specified Garaventa wheelchair lift can be entertained.

5. Pelletier and Flanagan Issues

Above information/clarifications were accepted this date by Pelletier and Flanagan. Project proceeding efficiently per their assessment.

6. Water Damage at Existing Paint Shop exterior wall.

George and Don will investigate water leak at connection corridor and develop scenario to address corrective measures. Pelletier and Flanagan will be notified of solutions.

7. Architect's Supplemental Instructions #1 issued this date.

Architect reviewed revised location of new doors in Rooms 225M and 400.

8. Proposal Request #1 - Status

Contractor to review and have available within several days.

9. Proposal Request #2 issued this date.

Architect reviewed change in lite fixtures Type A & B.

10. Requisition #2

Pelletier and Flanagan will submit draft of Requisition #2 for Don Routt's review. Upon acceptance, requisition will be signed by Moore/Weinrich Architects and distributed via mail.

Future draft requisitions will be available for Clerk's review one week prior to scheduled monthly meeting.



11. Additional Items

Contractor to have engineer (Bob Swift) submit 3rd floor bathroom granite removal sequence.

Door 316 - Missing

Door 422B - Hinges

Don Routt and contractor to search through State House inventory for replacement door and hinges as required.

Gregory Dungan  
Moore/Weinrich Architects

GD:rp

cc: Sally Diamond  
David Silsby  
Fred Gay  
Rick Rothbacker  
Bill Barrett  
Don Routt  
George Nichols  
Richard Burt



MOORE/WEINRICH ARCHITECTS  
14 MAINEST. SUITE 401 BRUNSWICK, MAINE  
207-729-1636 04011

PRINCIPALS:  
STEVEN A. MOORE  
JOHN R. WEINRICH  
ASSOCIATES:  
RICHARD F. BURT  
SUSAN L. BERGER

AGENDA

PHASE II RENOVATIONS  
STATE HOUSE

October 27, 1988

1. Job Progress/Schedule
2. Line of Communication
3. Finishes - Status
4. Pelletier & Flanagan Issues
5. Architect's Supplemental Instructions #4 (Attached)
6. Review Proposal Requests Status
7. Requisition #3
8. Additional Items



Press People to look at mechanics  
Plugs switches  
Geo to be here 1/2 Day twice  
to go through.

Outside must be done now due to weather.  
Put in within month.  
Occupancy permit Not Required

28-29 Special Session  
Priorities:

Medis Center/Press Camps Area  
225 high  
Both rooms high  
227 go ahead with it  
337 Lower Priorities  
442

Mon + Tue Next week meeting of groups.  
Who to call AT Moore Weirnich Rick of FLORENCE  
1. George Bill  
2. Greg.  
3. Rich Bunk

Sally Diamond  
Dick Sawyer

Finishes  
Const. Sign Rush

**MOORE/WEINRICH ARCHITECTS**

14 Maine Street Suite 401  
BRUNSWICK, MAINE 04011

**LETTER OF TRANSMITTAL**

**(207) 729-1636**

DATE 10/26/88	JOB NO.
ATTENTION	
RE: Phase II Renovations	

TO Pelletier & Flanagan  
P.O. Box 634 Old Portland Road  
Brunswick, Maine 04011

WE ARE SENDING YOU  Attached  Under separate cover via \_\_\_\_\_ the following items:

- Shop drawings     Prints     Plans     Samples     Specifications  
 Copy of letter     Change order     \_\_\_\_\_

COPIES	DATE	NO.	DESCRIPTION
1	10/26/88		Architects Supplemental Instruction No. 4

THESE ARE TRANSMITTED as checked below:

- For approval     Approved as submitted     Resubmit \_\_\_\_\_ copies for approval  
 For your use     Approved as noted     Submit \_\_\_\_\_ copies for distribution  
 As requested     Returned for corrections     Return \_\_\_\_\_ corrected prints  
 For review and comment     \_\_\_\_\_  
 FOR BIDS DUE \_\_\_\_\_ 19 \_\_\_\_\_     PRINTS RETURNED AFTER LOAN TO US

REMARKS \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COPY TO Sally Diamond, George Nichols  
Steve Doel

SIGNED:  Gregory Dungan/b



**ARCHITECT'S  
SUPPLEMENTAL INSTRUCTIONS**

- Owner
- Architect
- Consultant
- Contractor
- Field
- Other

AIA DOCUMENT G710 (Instructions on reverse side)

PROJECT: Phase II Renovations  
(name, address) State House

ARCHITECT'S SUPPLEMENTAL  
INSTRUCTION NO: 4

OWNER: State of Maine

DATE OF ISSUANCE: October 27, 1988

TO: Pelletier & Flanagan  
(Contractor) Old Portland Road  
P.O. Box 634  
Brunswick, Maine 04011

ARCHITECT: Moore/Weinrich Architects  
14 Maine St., Suite 401  
Brunswick, Maine 04011

CONTRACT FOR:

ARCHITECT'S PROJECT NO: 88-12

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Architect.

Description:

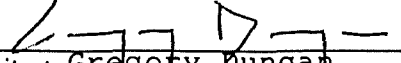
Finish Schedule/Material Selection - Press Corps

Attachments: (Here insert listing of documents that support description.)

Finish Schedule - Press Corps

ISSUED:

ACCEPTED:

BY   
Architect Gregory Dungan  
Moore/Weinrich Architects  
14 Maine St. Suite 401  
Brunswick, ME 04011

BY \_\_\_\_\_  
Contractor \_\_\_\_\_ Date \_\_\_\_\_



MOORE/WEINRICH ARCHITECTS  
14 MAINE ST. SUITE 401 BRUNSWICK, MAINE  
207-729-1636 04011

STATE HOUSE PHASE II  
PRESS CORPS

FINISHES SELECTION

10/27/1988



**FINISH SCHEDULE/MATERIAL SELECTION  
STATE HOUSE PHASE II - PRESS CORPS**

MOORE/WEINRICH ARCHITECTS  
14 Maine Street Suite 401  
Brunswick, Maine 04011

MISCELLANEOUS FINISHES

INTERIOR FACE BRICK: Stripped and given a natural finish

DOOR FRAMES & METAL RAILINGS: Pratt & Lambert #1483 "April Mist"  
Note: Door Frames: No. B100 & 100 (Interior side only)

WINDOW FRAMES: (Interior Side only) Pratt & Lambert #1483 "April Mist"  
Note 1: Windows in Corridor 101 to be painted: Pratt & Lambert #1837 Cirrus White  
2: Window Wall Room 106A: Pratt & Lambert #1483 "April Mist" (Both Sides)

STEEL TRUSSES, STEEL I BEAMS/CHANNELS & MISC. STEEL: Pratt & Lambert #1483 "April Mist"

EXPOSED PIPING & CONDUIT: Pratt & Lambert #1837 "Cirrus White"

MECHANICAL DUCTWORK: Pratt & Lambert #1301 "Blue Fox"

EXPOSED WOOD CEILINGS & WOOD TRUSSES: Pratt & Lambert #1837 "Cirrus White"

WOOD COLUMNS: Pratt & Lambert #1837 "Cirrus White"

WORK SURFACES: Nevamar laminate ARP surface #1C-6-IT-Textured "Dove Gray" Intertex





# FINISH SCHEDULE/MATERIAL SELECTION

## STATE HOUSE PHASE II - PRESS CORPS -

MOORE/WENRICH ARCHITECTS

ROOM NO.	FLOOR	BASE	WALLS	CEILING	NOTES
B 100	MUSSON RUBBER RECESSED FLUFF CHOND TILE TT-12	No BASE SCAIRE EDGES	EXPOSED YELLOW BRICK	PART 1 LAMBERT 1837 CLIPRUS	
B 101	VCT ARMSTRONG STONETEX 52122 FEBRU GRAY 52124 LAVA STONE SEE NOTE #1	BURKE STRAIGHT BASE 251 P-SEAFAM	4WB. 1 PART 1 LAMBERT 2275 CHALK GRAY	A.C.T. AS SPECIFIED	# 1) CONTINUOUS CHECKERBOARD PATTERN THROUGHOUT PUBLIC CORRIDORS SEE EXAMPLE ATTACH. #1
B 102	CARPET WELCO GRAFFITO -CORBLESTONE-	BURKE STRAIGHT BASE. 251 P-SEAFAM NO BASE AGAINST EXPOSED BRICK WALLS	EXPOSED YELLOW BRICK <del>4WB. 1</del> PART 1 LAMBERT 2275 CHALK GRAY		
B 102A	VCT ARMSTRONG STONETEX 52122 FEBRU GRAY 52124 LAVA STONE SEE NOTE #1				# 1) CONTINUOUS CHECKERBOARD PATTERN THROUGHOUT SIM. TO B101 CORP. SEE ATTACH. #1
DARK RM.					
B 103	CARPET WELCO GRAFFITO				
OFFICE					



# FINISH SCHEDULE/MATERIAL SELECTION

## STATE HOUSE PHASE II - PRESS CORPS -

MOORE/WEINRICH ARCHITECTS

... 3 PAGE OF 7

ROOM No.	FLOOR	BASE	WALLS	CEILING	NOTES
B104 OFFICE	CARPET WELCO GRAFFITO -COBBLESTONE-	BURKE STRAIGHT BASE 251-P-SEAFOAM NO BASE AGAINST EXPOSED BRICK WALLS	EXPOSED YELLOW BRICK <hr/> G.W.B. PRATT & LAMBERT 2275 CHALK GRAY	A.C.T. AS SPECIFIED	
B105 CORRIDOR	V.C.T. ARMSTRONG STONETEX 52122 PEBBLE GRAY 52124 LAVA STONE SEE NOTE # 1	BURKE STRAIGHT BASE 251-P SEAFOAM	G.W.B. PRATT & LAMBERT 2275 CHALK GRAY	↓	# 1) CONTINUOUS CHECKERBOARD PATTERN THROUGHOUT PUBLIC CORRIDORS SEE ATTACH #1
B106 OFFICE	CARPET WELCO GRAFFITO -COBBLESTONE-	BURKE STRAIGHT BASE 251-P SEAFOAM NO BASE AGAINST EXPOSED BRICK WALLS	EXPOSED YELLOW BRICK <hr/> G.W.B. PRATT & LAMBERT 2275 CHALK GRAY	↓	
B107 STUDIO	↓	↓	↓	↓	
B108 OFFICE	↓	↓	↓	↓	



# FINISH SCHEDULE/MATERIAL SELECTION

## STATE HOUSE PHASE II - PRESS CORPS -

MOORE/WEINRICH ARCHITECTS

ROOM No.	FLOOR	BASE	WALLS	CEILING	NOTES
B109 OFFICE	CARPET WELLCO GRAFFITO -COBBLESTONE-	BURKE STRAIGHT BASE 2SI-P SEAFOAM NO BASE AGAINST EXPOSED BRICK WALLS	EXPOSED MED BRICK <hr/> G.W.B. PRATT & LAMBERT 2275 CHALK GRAY	A.C.T. AS SPECIFIED	
B110 OFFICE	↓	↓	↓	↓	
B111 OFFICE	↓	↓	↓	↓	
B112 MECH					



# FINISH SCHEDULE/MATERIAL SELECTION

STATE HOUSE PHASE II - PRESS CORPS -

... 5 PAGE OF 7

MOORE/WEINRICH ARCHITECTS

ROOM No.	FLOOR	BASE	WALLS	CEILING	NOTES
100 CORRIDOR	V.C.T. ARMSTRONG STONETEX 52122 PEBBLE GRAY 52124 LAVA STONE SEE NOTE # 1	NO BASE SCRIBED EDGES	EXPOSED BRICK RED & YELLOW PRATT & LAMBERT 2275 CHALK GRAY G.W.B.	PRATT & LAMBERT 1837 CIRPUS	# 1) CONTINUOUS CHECKERBOARD PATTERN THROUGHOUT PUBLIC CORRIDOR SEE EXAMPLE ATTACH. # 2
101 CORRIDOR	↓	NO BASE SCRIBED EDGES	EXPOSED BRICK RED, YELLOW & GRANITE PRATT & LAMBERT 2275 CHALK GRAY G.W.B.	↓	↓
STAIRS #2	MUSSON RUBBER DISC-O-TILE # 190 SLATE	OAK STRINGERS SEE ARCH DWGS	EXPOSED BRICK YELLOW PRATT & LAMBERT 2275 CHALK GRAY	↓	
102 CORRIDOR	V.C.T. ARMSTRONG STONETEX 52122 PEBBLE GRAY 52124 LAVA STONE SEE NOTE # 1	BURKE STRAIGHT BASE 251-P SEAFOAM	G.W.B. PRATT & LAMBERT 2275 CHALK GRAY	↓	# 1) CONTINUOUS CHECKERBOARD PATTERN THROUGHOUT PUBLIC CORRIDOR SEE EXAMPLE ATTACH. # 2
103 OFFICE	CARPET WELLCO GRAFFITO CORBLESTONE-	BURKE STRAIGHT BASE 251-P SEAFOAM NO BASE AGAINST EXPOSED BRICK WALLS	EXPOSED YELLOW BRICK G.W.B. PRATT & LAMBERT 2275 CHALK GRAY	↓	





# FINISH SCHEDULE/MATERIAL SELECTION

STATE HOUSE PHASE II - PRESS CORPS -

MOORE/WEINRICH ARCHITECTS

6 PAGE OF 7

ROOM No.	FLOOR	BASE	WALLS	CEILING	NOTES
104 OFFICE	CARPET WELLCO GRAFFITO -COBBLESTONE-	BURKE STRAIGHT BASE 251-P SEAFOAM NO BASE AGAINST EXPOSED BRICK WALLS	EXPOSED YELLOW BRICK <hr/> G.W.B. PRATT & LAMBERT 2275 CHALK GRAY	PRATT & LAMBERT 1837 CIRPUS	
105 OFFICE	↓	↓	↓	↓	
106 OFFICE	↓	↓	↓	↓	
106A PAINT PM	V.C.T ARMSTRONG STONE TEX 52122 PEBBLE GRAY 52124 LAVA STONE SEE NOTE #1	↓	↓	↓	#1) CONTINUOUS CHECKERBOARD PATTERN THROUGHOUT SIM. TO 102 CORR.
106B STORAGE	↓	↓	↓	↓	↓



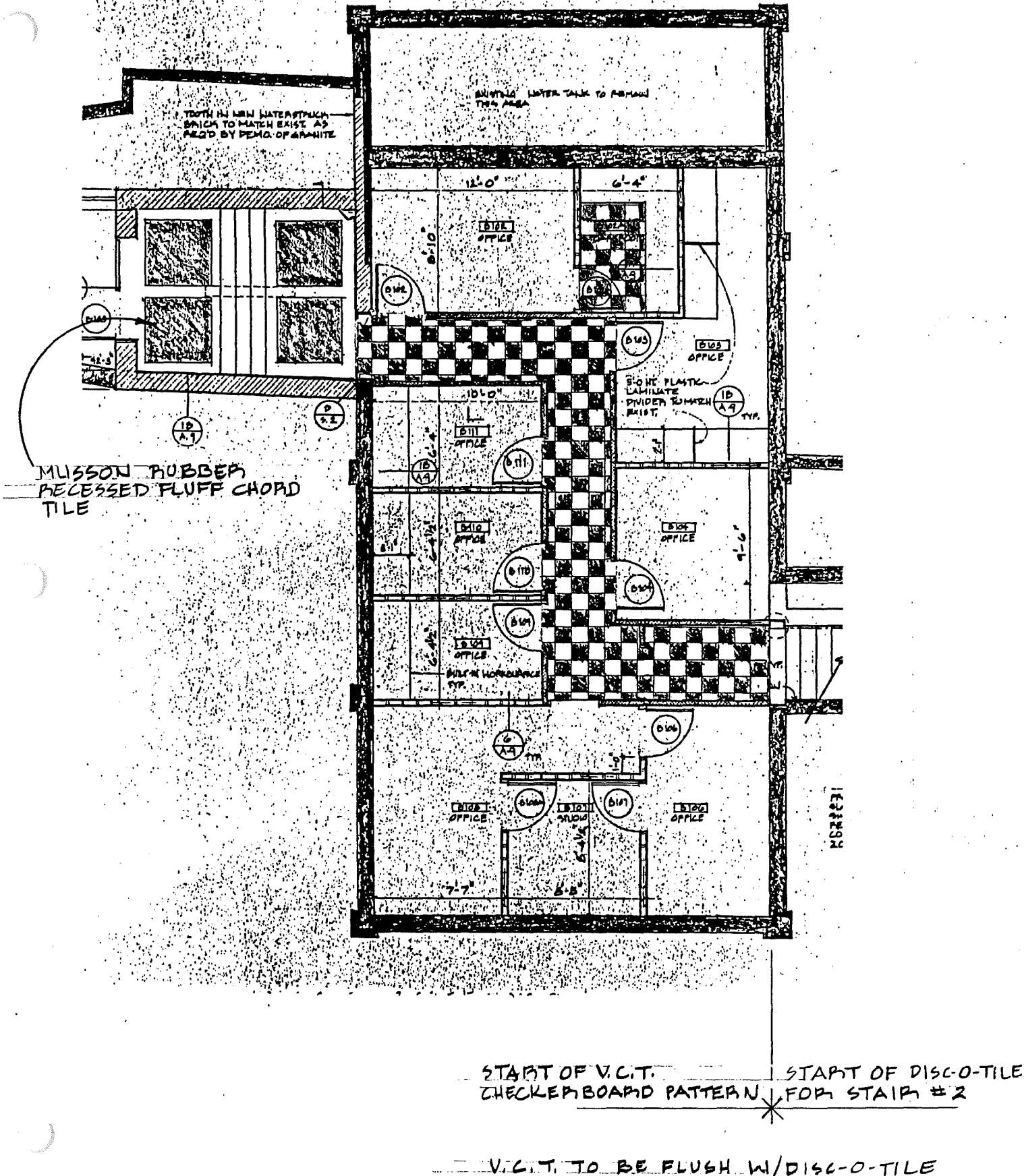
# FINISH SCHEDULE/MATERIAL SELECTION

## STATE HOUSE PHASE II - PRESS CORPS -

MOORE/WEINRICH ARCHITECTS

ROOM No.	FLOOR	BASE	WALLS	CEILING	NOTES
106C DATA K R.M.	V.C.T. ARMSTRONG STONETEX 52122 PEBBLE GRAY 52124 LAVA STONE SEE NOTE # 1	BURKE STRAIGHT BASE 251-P SEAFOAM NO BASE AGAINST EXPOSED BRICK WALLS	EXPOSED YELLOW BRICK <hr/> C.W.B PRATT & LAMBERT 2275 CHALK GRAY	PRATT & LAMBERT 1837 CIRRUS	#1.) CONTINUOUS CHECKERBOARD PATTERN THROUGHOUT SIM TO 102 CORR.
107 MECH.	WOOD.		EXPOSED RED BRICK	PRATT & LAMBERT 1837 CIRRUS	





TOOTH IN NEW WATERSTOPPING BRICK TO MATCH EXIST. AS REQ'D BY DEMO. OF GRANITE

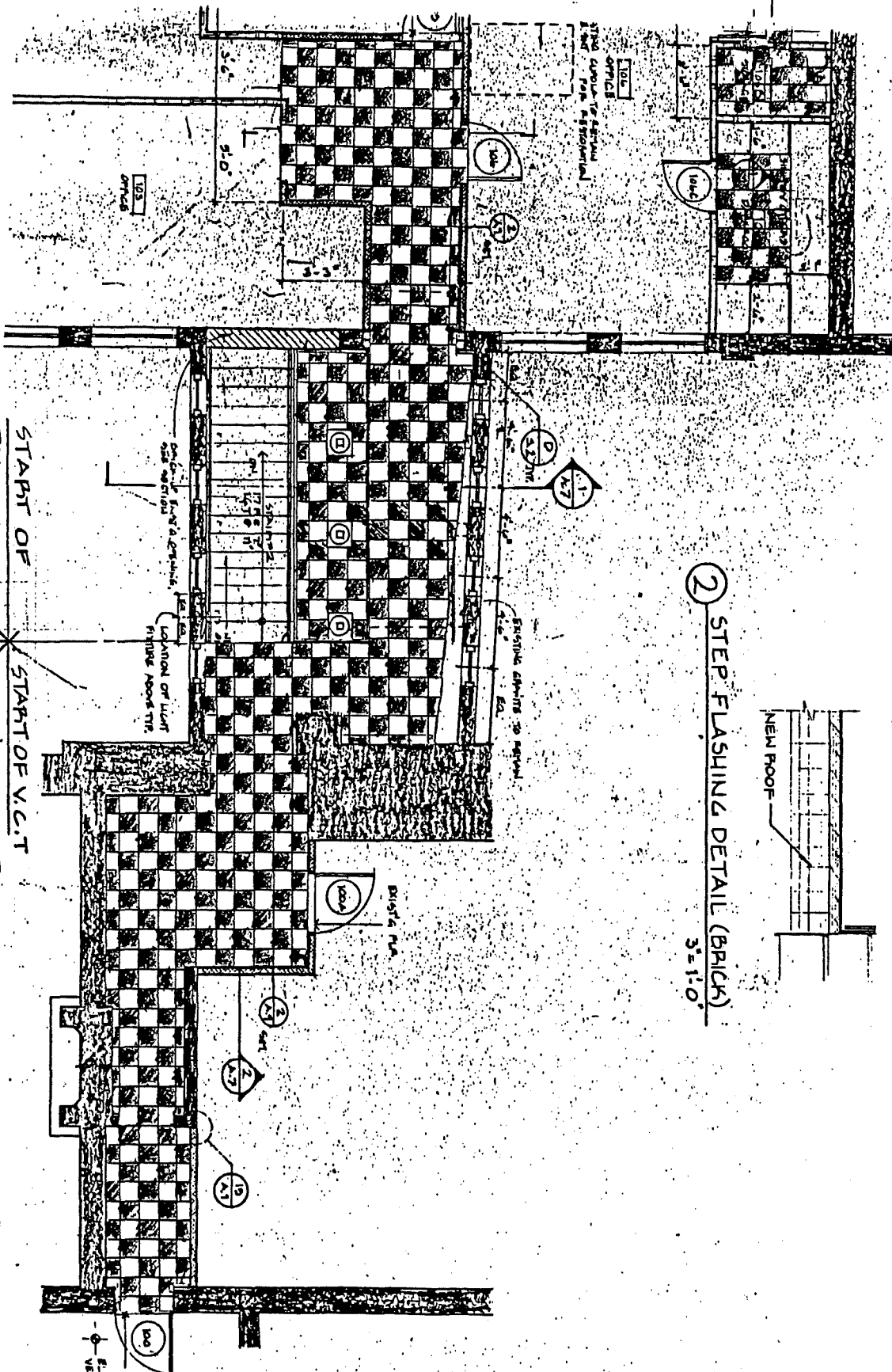
REMOVE WATER TANK TO REPAIR THIS AREA

MISSOURI RUBBER RECESSED FLUFF CHORD TILE

START OF V.C.T. CHECKERBOARD PATTERN | START OF DISCO-TILE FOR STAIR #2

V.C.T. TO BE FLUSH W/DISCO-TILE



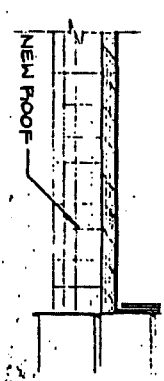


START OF  
DISC-O-TILE  
FOR STAIRS  
#2  
RAISED BASE  
OF HANDRAIL

START OF V.C.T  
CHECKERBOARD  
PATTERN

V.C.T. TO BE FLUSH W/DISC-O-TILE  
START V.C.T. W/FULL TILE

2 STEP FLASHING DETAIL (BRICK)  
3" = 1'-0"







MOORE/WEINRICH ARCHITECTS  
14 MAIN ST. SUITE 401 BRUNSWICK, MAINE  
207-729-1636 04011

PRINCIPALS:  
STEVEN A. MOORE  
JOHN R. WEINRICH  
ASSOCIATES:  
RICHARD F. BURT  
SUSAN L. BERGER

## MINUTES

### PHASE II RENOVATIONS State House, Augusta October 27, 1988

#### Attendees:

Sally Diamond	State of Maine
David Silsby	State of Maine
Rick Rothbacher	Pelletier & Flanagan
Bill Barrett	Pelletier & Flanagan
George Nichols	Moore/Weinrich Architects
Richard Burt	Moore/Weinrich Architects
Gregory Dungan	Moore/Weinrich Architects

#### 1. Job Progress/Schedule

George Nichols gave the following evaluation of job progress:

- Press Corps - 3 Weeks behind schedule
- 225 - On Schedule
- 227 - On Schedule
- 228 - 2 Weeks behind schedule (but noting scope of work reduced.
- 337 - On Schedule
- 3rd Floor Toilets - 3 Weeks behind schedule
- 400 - On Schedule
- 422 - 2 Weeks behind schedule

It was also noted that any time extension would be considered when Pelletier & Flanagan submits its quote for Proposal Request No. 5 (Revision No. 1).

Rick Rothbacher stated that he would have the quote for Proposal Request No. 5 either Friday 10/28/88 or Monday 10/31/88.

Sally Diamond stated her concern for completion of work in progress and requested all emphasis be placed on interior spaces, in an effort to keep original Substantial Completion date.



## 2. Line of Communication

Rick Burt stated that George Nichols would be the main line of communication between Pelletier & Flanagan and Owner and that Greg Dungan would be the second line of communication and that he would be the third.

Greg Dungan stated that Sally Diamond would be out for two weeks beginning 11/2/88 and that Dick Sawyer would be the key person to contact representing the Owner.

Rick Rothbaker had some concern over there not being a full time clerk-of-the-works on the job. Moore/Weinrich Architects rebutted that considering the size of the job and that demolition was over, most conceivable problems have surfaced and that a full time clerk was not necessary.

It was also stated to Pelletier & Flanagan that they need to anticipate any problems, and refer them to George Nichols who will be visiting the site two 1/2 days per week.

Pelletier & Flanagan was told to directly notify Owner regarding:

1. Asbestos
2. After hours work

## 3. Finishes

The Architect requested that the contractor submit all finish samples and colors regarding the main building in order to provide Owner and Architect adequate review time.

The Architect stated that Press Corps finishes have been selected and would be reviewed under Item No. 5 of this agenda.

## 4. Pelletier & Flanagan Issues:

The above information/clarifications were accepted this date by Pelletier & Flanagan. Project proceeding efficiently per their assessment.

## 5. Architect's Supplemental Instruction No. 4.

Review of Finish Schedule/Material Selection - Press Corps.



6. Review Proposal Requests status

Proposal Request No. 1 - George Nichols to review.  
Proposal Request No. 2 - O.K.-Resubmit-clarify front end  
Proposal Request No. 3 - O.K. Demo. only  
Proposal Request No. 4 - Review  
Proposal Request No. 5 - Pelletier & Flanagan to submit  
Friday or Monday  
Supplemental Instruction No. 2 - O.K.

All approved Proposal Requests will be processed thru a Change Order with Requisition No. 4 if all paperwork is correctly submitted by the Contractor.

7. Requisition No. 3 - George Nichols to review.

8. Additional Items

Sally Diamond asked status on job sign. Rick Rothbacker said it should be on site the first of next week.

Gregory Dungan  
Moore/Weinrich Architects

GD:rp