

PROJECT MANUAL

Museum on Main Project No.0648
136 Main Street
LaGrange, Georgia

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PART 1-SECTION A-INVITATION TO BID

Sealed proposals from invited general contractors will be received by Museum on Main Owner, in the Board Room of Smith Design Group, Inc., LaGrange, Georgia, until 2:00 p.m., at the time prevailing in LaGrange, Georgia on May 3, 2007 for the Renovation of Museum on Main located at 136 Main Street in LaGrange, Georgia. The Owner and Architect will review bids and notify successful contractor within 7 days.

Drawings and Specifications are open to public inspection at www.smithdesigngroup.net.

Copies of the Drawings may be obtained from Smith Design Group, 307 Church Street, LaGrange, Georgia, upon receipt of the following amounts:

Plans and Specifications.....	\$250.00
Reduced Drawings Available.....	\$250.00

Upon receipt of all documents in undamaged conditions within thirty (30) days after the date of opening of bids, one-half of the deposit will be refunded.

The difference between the deposit and the amount refunded represents the cost of reproduction. No refund will be made for documents received after thirty (30) days or in damaged condition.

The contract, if awarded, will be on a lump sum basis. No bid may be withdrawn for a period of 45 days after time has been called on the date of the opening. Bids must be accompanied by a Bid Bond in an amount not less than 5% of the total sum. Both a Performance Bond and a Payment Bond will be required in the amount equal to 100% of the contract price. Performance and Payment Bond to be an Additive Alternative.

The project is to be substantially complete with 300 consecutive calendar days.

Criteria for judging completion of the project shall be the sole responsibility of the Architect.

The Owner reserves the right to reject any or all bids and to waive technicalities and informalities.

Anticipated construction start date is June 15, 2007.

MUSEUM ON MAIN

BY: _____
KAYE MINCHEW

SECTION B - PROPOSAL FORM

Date: _____

MUSEUM ON MAIN
136 MAIN STREET
LAGRANGE, GEORGIA

PROJECT NO. 0648

Gentlemen:

B-01 Having carefully examined the Project Manual entitled, "Museum on Main", located at 136 Main Street in LaGrange, Georgia and the Drawings similarly entitled, and numbered _____, and all dated _____ and Addendum(a) No.(s) _____

as well as the premises and conditions affecting the work, the undersigned proposes to furnish all services, labor, and material called for by them for the entire work in accordance with said document for the TOTAL SUM OF

_____ DOLLARS (\$ _____),

B-02 The undersigned further proposes that, should any of the following alternatives be accepted and be incorporated in the Contract, the TOTAL SUM will be altered in each case as follows:

2.1 Deductive Alternatives: No Items Included.

2.2 Additive Alternatives:

Additive Alternate No. One.

To install revolving door as detailed on the drawings. Base Bid to leave existing doors and install interior air lock.

\$ _____.

Additive Alternate No. Two.

To reroof the existing roof as detailed on the drawings. Base Bid to install new HVAC curbs and vent stacks in existing roof.

\$ _____.

Additive Alternate No. Three.

To provide all carpet (\$34 S.Y. cash allowance for purchase and delivery) and install all carpet in spaces called for on the interior finish schedule.

\$ _____.

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- B-03 For and in consideration of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, the undersigned agrees that this proposal may not be revoked, or withdrawn for a period of forty-five (45 days) from and including the date of the Bid Opening.
- B-04 The undersigned agrees to execute a contract (AIA Document, A101), no later than ten (10) days from and including date of notification of acceptance of this proposal in writing, by mail, telegraph, facsimile transmission, or delivery and at the same time to furnish and deliver to the Owner a Performance Bond and a Labor and Material Payment Bond (AIA Document A312), both in an amount equal to 100% of the Base Bid Sum.
- B-05 The undersigned agrees to commence actual physical work on the site with an adequate force and equipment within ten (10) days from and including a date to be specified in a written order of the Owner and be substantially complete within 60 consecutive calendar days with the work in Phase I and substantially complete within 240 consecutive calendar days with the work in Phase II. No extension to the contract time will be given for normal rain and mud days.
- B-06 Enclosed herewith is a Bid Bond (*) in an amount of _____

Dollars (\$_____) being not less than 5% of the BASE BID. The undersigned agrees that the above-stated amount is the proper measure of liquidated damages which the Owner will sustain by failure of the undersigned to execute the Contract and to furnish the Performance Bond and the Labor and Material Payment Bond in case this proposal is accepted and further agrees to the following:

*Certified or Cashier's Check not acceptable.

- B-07 If this proposal is accepted within forty-five (45) days from and including the date of the Bid Opening and the undersigned fails to execute the Contract within ten (10) days from and including date of notice of such acceptance, or, if he fails to furnish both Performance Bond and Labor and Material Payment Bond (if add alt 14 is accepted), the obligation of the Bid Bond will remain in full force

and effect, and the money payable therefore shall be paid the Owner as liquidated damage for such failure; otherwise the obligation of the Bid Bond will be null and void.

B-08 The owner reserves the right to review subcontractors with apparent low bidder and make changes in subcontractors prior to entering into a contract with reasonable adjustments to the contract amount if the owner's best interests are served.

Respectively submitted,

Name: _____

Address: _____

By: _____

Title: _____

The full names and addresses of persons and firms interested in the foregoing bids as principals are as follows:

The legal name of the Bidder is _____

Site Work Subcontractor _____

HVAC Subcontractor _____

Plumbing Subcontractor _____

Electrical Subcontractor: _____

Drywall Ceiling Subcontractor: _____

Floor Covering Subcontractor _____

Fire Protection Subcontractor: _____

Millwork Subcontractor: _____

SECTION C - SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

- C.1-01 The following Supplementary Instructions, Articles C.1-02 thru C.0-10 inclusively, modify, change, delete from or add to the "Instructions to Bidders", AIA Document A701, 1997 Edition, which is by reference made a part of this project manual.

Upon written request, the Architect will furnish any Bidder with a copy of the "Instructions to Bidder." Where any Article, Paragraph, Subparagraph or Clause of the Instructions to Bidders is modified, change, deleted from or added to, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

C.1-02 ARTICLE 1 DEFINITIONS

1. In the ninth line of Paragraph 1.1 immediately following the word "Specifications" insert, "the Bidder's signed Proposal Form."
2. Add to Paragraph 1.3 the following:
Post-bid Addenda are written or graphic instruments issued by the Architect after receipt of Bids, but prior to the signing of the Form of Agreement Between the Owner and Contractor, which modify the Bidding Documents and may or may not increase or decrease the Base Bid.
3. Add to Paragraph 1.7 the following:
Unit prices are net. The term "net" as used in reference to unit prices means that the net prices offered by the Bidder is inclusive of all sums for payment, repayment, reimbursement, remittance, remuneration, compensation, profit, cost, overhead, expense, loss, expenditure, allowance, charge, demand, hire, wages, salary, tax, cash, assessment, price, money, bill, statement, dues, recovery, restitution, benefit, recoupment, exaction or injury.

C.1-03 ARTICLE 2 BIDDER'S REPRESENTATIONS

There are no modifications, changes, deletions from or additions to any Article, Paragraph, Subparagraph or Clause of Article 2 of the Instructions to Bidders.

C.1-04 ARTICLE 3 BIDDING DOCUMENTS

1. Beginning in the fourth line following the word "therein", of Subparagraph 3.1.1, delete the remainder of this Subparagraph and substitute the following therefor:

Deposits will be refunded fully or in part, as designated in the advertisement or Invitation to Bid.
2. Add to subparagraph 3.3.3 the following:
The Architect's approval of the substitutions shall not relieve any Contractor of the responsibility for any deviation from the requirements of the Contract Documents, nor shall the Architect's approval relieve the Contractor from responsibility for substitution, that is to say, that should the Architect give approval for a substitution and it be found at anytime that the material or equipment is not equal to that specified or that the information furnished in the request for substitution was not accurate, the Architect may require the Contractor to furnish the specified material or equipment at no additional cost to the Owner.

C.1-05 ARTICLE 4 BIDDING PROCEDURES

Add to Subparagraph 4.1.1. the following: Bids shall be submitted in triplicate.

C.1-06 ARTICLE 5 CONSIDERATIONS OF BIDS

1. Delete Subparagraph 5.3.2 in its entirety and substitute the following therefor:

- 5.3.2 Alternative or Alternative Bids are both deductive and additive and
- a.) No Deductive Alternative or Alternative Bids will be taken unless the base bid exceeds the amount of money budgeted for the project prior to the opening of the bids, and if taken will be taken in numerical sequence to the extent necessary to reduce the cost to A sum which is not in excess of the amount budgeted if possible (Deductive Alternates or Alternatives will not be used to determine the Low Bidder) and
 - b.) No Additive Alternate or Alternative Bids will be taken unless the base bid is less than The amount of money budgeted for the project prior to the opening of the bids, and if taken may be taken in any sequence as the Owner desires in order to increase the cost To a sum which is equal or as close to the amount budgeted as possible. The acceptance of additive Alternates or Alternative Bids will not be used to determine the Low Bidder.

C.1-07 ARTICLE 6 POST-BID INFORMATION

There are no modifications, changes, deletions from or additions to any Article, Paragraph, Subparagraph or Clause of Article 6 of the Instructions to Bidders.

C.1-08 ARTICLE 7 PERFORMANCE AND PAYMENT BOND

Delete Subparagraph 7.1.3 in its entirety and substitute the following therefor:

7.1.3 The bonds shall be written by companies listed in the current issue of "Federal Register" Department of the Treasury as companies having complied with the law and regulations of the Department of the Treasury and that the companies also have a current surety license in the State of Georgia. The cost of furnishing bonds meeting the above requirements shall be included in the Bid.

SECTION D - FORM OF CONTRACT

D-01 FORM TO BE USED

- 1.1 The Agreement for the work will be written on the Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, AIA Document A101, 1997 edition, with modifications.
- 1.2 Upon written request, the Architect will furnish any bidder with a copy of the form of Agreement with modifications. A copy of the modifications is included in Section I of this Project Manual.

END OF SECTION

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SECTION E.1 - SUPPLEMENTARY GENERAL CONDITIONS

SUPPLEMENTARY CONDITIONS

The following supplements modify the “General Conditions of the Contract for Construction”, AIA Document A201, Fourteenth Edition, 1997. Where a portion of the “General Conditions” is modified or deleted by these Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

E.1-01 ARTICLE I: GENERAL PROVISIONS

- 1.1.1 Delete the second sentence and substitute the following for the second sentence:
A modification is (1) a written amendment to the Contract signed by both parties or (2) a change order, and (3) a construction change directive.

E.1-02 ARTICLE 2: OWNER

- 2.2 Information and Services required of the Owner
Delete subparagraph 2.2.5 and substitute the following:
- 2.2.5 The Contractor will be furnished free of charge ten (10) copies of drawings and project manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

E.1-03 ARTICLE 3: CONTRACTOR

- 3.4 Labor and Materials
Add the following subparagraphs 3.4.3 and 3.4.4 to 3.4:
- 3.4.3 After the contract has been executed, the owner and architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 1 of the Specifications).
- 3.4.4 By making requests for substitutions based on subparagraph 3.4.3 above, the Contractor:
- .1 represents that the 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 the contractor will provide the same warranty for the substitution that the contractor would for the specified;
 - .3 certifies that the cost data presented is complete and includes all related costs under this contract except the Architect’s redesign costs, and waives all claims for additional costs related to the substitution which subsequently becomes 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.
- 3.8 Allowances
- 3.8.2.3 Add the following to the end of Clause 3.8.2.3: “except when installation is specified as part of the allowance in the General Requirements (Division 1 of the Specification).”

Contractors Construction Schedules

Delete this paragraph in its entirety by deleting subparagraph 3.10.1, subparagraph 3.10.2, and subparagraph 3.10.3, and substitute the following: The contractor, within fifteen (15) days of commencing work, shall submit to the owner and architect for their information, the contractor's schedule for completing the work. The contractor's schedule shall be revised no less frequently than monthly and shall be revised to reflect conditions encountered from time to time and shall be related to the entire project. Each such revision shall be furnished to the owner and the architect.

The contractor shall continuously maintain at the site, for the benefit of the owner and architect, one record copy of this contract marked to record on a current basis changes, selections and modifications made during construction. Additionally, the contractor shall maintain at the site for the owner and architect the approved shop drawings, product data, samples and other similar required submittals. Additionally the contractor shall maintain a record of the project by maintaining a daily project record log and shall make these records available to the owner at its requests. Upon final completion of the work, all these record documents shall be delivered to the owner.

3.18 Indemnification

Delete this paragraph in its entirety by deleting subparagraph 3.18.1, subparagraph 3.18.2, and subparagraph 3.18.3 and substitute the following: To the fullest extent permitted by law, the contractor shall indemnify and hold harmless the owner, the architect, and the architect's consultants from and against liability, claims, damages, losses, and expenses including attorney's fees, arising out of or resulting from performance of the work, provided that such liability, claims, damage, loss or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the work itself) including loss of use resulting there from, but only to the extent caused in whole or in part by negligent acts or omissions of contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such liability, claim, damage, loss or expense is caused in part by a party indemnified here under.

In claims against any person or entity indemnified under this paragraph by an employee of the contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this paragraph shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the contractor or a subcontractor under worker's compensation acts, disability benefits acts or other employee benefits acts.

E.1-04 ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1 Architect

Delete subparagraph 4.1.4

4.2 Architect's Administration of Contract

4.2.8 Delete the words. "may authorize minor changes in the work as provided in paragraph 7.4".

Add the following subparagraph 4.2.14 to paragraph 4.2:

4.2.14 Architect shall have no authority to approve or accept materials or workmanship inferior to or not in conformance with that called for by contract documents.

4.3 Claims and Disputes.

Delete the words “arbitration or” from second and third sentences.

Delete the following subparagraphs:

4.3.3

4.3.4

4.3.5

4.3.7

4.3.8

4.3.8.1

4.3.8.2

and substitute the following:

Claims by the Contractor

All contractor claims shall be initiated by written notice and claim to the owner and architect. Such written notice and claim must be furnished within twenty-one days after occurrence of the event, or the first appearance of the condition, giving rise to the claim.

Pending final resolution of any claim of the contractor, the contractor shall diligently proceed with performance of this contract and the owner shall continue to make payments to the contractor in accordance with this contract. The resolution of any claim under this paragraph shall be reflected by a change order executed by the owner, the architect, and the contractor.

Claims for Additional Costs

If the contractor wishes to make claim for an increase in the contract price, as a condition precedent to any liability of the owner therefore, the contractor shall give the architect written notice of such claim within twenty-one days after the occurrence of the event, or the first appearance of the condition, giving rise to such claim. Such notice shall be given by the contractor before proceeding to execute any additional or changed work. The failure by the contractor to give such notice and to give such notice prior to executing the work shall constitute a waiver of any claim for additional compensation.

In connection with any claim by the contractor against the owner for compensation in excess of the contract price, any liability of the owner for the contractor’s costs shall be strictly limited to direct costs incurred by the contractor and shall in no event include indirect costs or consequential damages by the contractor. The owner shall not be liable to the contractor for claims of third parties, including subcontractors, unless and until liability of the contractor has been established therefore in a court of competent jurisdiction.

Claims for Additional Time

If the contractor is delayed in progressing any task which at the time of delay is then critical or which during the delay becomes critical, as the sole result of any act or neglect to act by the owner or someone acting in the owner’s behalf, or by changes ordered in the work, unusual delay in transportation, unusually adverse weather conditions not reasonable anticipatable, fire or any causes beyond the contractor’s control, then the date for achieving Substantial Completion of the Work shall be extended upon the written notice and claim of the contractor to the owner and the architect, for such reasonable time as the architect may determine. Any notice and claim for extension of time by the contractor shall be made not more than seven (7) days after the occurrence of the event or the first appearance of the condition giving rise to the claim and shall set forth in detail the contractor’s basis for requiring additional time in which to complete the project. In the event the delay to the contractor is a continuing one, only one notice and claim for additional time shall be necessary. If the contractor fails to make such claim as required in this paragraph, any claim for an extension of time shall be waived.

E.1 – 3

In the last sentence, delete the words “subparagraphs 4.3.7 or 4.3.8” and substitute “the supplementary conditions”.

- 4.3 Resolution of Claims and Disputes
- 4.4.4 Delete the words “but subject to arbitration” from the first sentence.
- 4.5 Arbitration
Delete this paragraph in its entirety.

E.1-05 ARTICLE 5: SUBCONTRACTORS

- 5.2 Award of Subcontracts and other Contracts for Portions of the Work
- 5.2.1 Delete the last sentence of subparagraph 5.2.1
- 5.4 Contingent Assignment of Subcontractors

E.1-07 ARTICLE 7: CHANGES IN THE WORK

- 7.1 Changes
- 7.1.1 Delete the phrase “or order for a minor change in the work,” from subparagraph 7.1.1
- 7.1.2 Delete the phrase “an order for a minor change in the work may be issued by the Architect alone” from paragraph 7.1.2.
- 7.1.3 Delete the phrase “or order for a minor change in the work” from subparagraph 7.1.3.
- 7.3 Construction Change Directives
- 7.3.6 In the first sentence, delete the words “a reasonable allowance for overhead and profit” and substitute “an allowance for overhead and profit in accordance with clauses 7.3.10.1 through 7.3.10.6 below.”
Add the following subparagraph 7.3.10 to 7.3:
- 7.3.10 In subparagraph 7.3.6, the allowance for the combined overhead and profit included in the total cost to the owner shall be based on the following schedule:
 - .1 For the contractor, the work performed by the contractor’s own forces, 10% of the cost.
 - .2 For the contractor, for work performed by the contractor’s subcontractor, 7.5% of the amount due the subcontractor.
 - .3 For each subcontractor or sub-contractor involved for work performed by that subcontractor’s or subcontractor’s own forces 7.5% of the cost.
 - .4 For each subcontractor, for work performed by the subcontractor’s sub-sub-subcontractor, 7.5% of the amount due the sub-sub-subcontractor.
 - .5 Cost to which overhead and profit is to be applied shall be determined in accordance with subparagraph 7.3.6.

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- .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 involving over \$100.00 be approved without such itemization.

E.1-08 ARTICLE 8 TIME

8.3 Delays in Extension of Time

- 8.3.1 Delete the phrase, “or by delay authorized by the owner pending arbitration, “from subparagraph 8.3.1 and add at the end of subparagraph 8.3.1 the following: “However, the parties expressly agree that the contractor shall not be entitled to any increase in the Contract Sum or to any damages or any other additional compensation as a consequence of any such delays or disruptions.”

- .8.3.2 Delete the subparagraph 8.3.2

- .8.3.3 Delete the subparagraph 8.3.3

E.1-09 ARTICLE 9: PAYMENTS AND COMPLETION

9.3 Applications for Payment

- 9.3.1 Add the following sentence to subparagraph 9.3.1: “The form of application for payment shall be a notarized AIA Document G702, Application and Certification for Payment, supported by AIA Document G703, Continuation Sheet.

Add the following clause 9.3.1.3 to subparagraph 9.3.1:

- 9.3.1.3 Until substantial completion, the owner shall pay 90% of the amount due the contractor on account of progress payments.

9.7 Failure of Payment

- 9.7.1 Delete the phrase “...or awarded by arbitration” from the first sentence of subparagraph 9.7.1.

9.8 Substantial Completion

- 9.8.3 Add the following sentences at the end of subparagraph 9.8.3.
The payment shall be sufficient to increase the total to 100% of the contract sum, less such amounts as the architect shall determine for incomplete work and unsettled claims.

9.10 Final Completion and Final Payment

Add the following subparagraph 9.10.5 to paragraph 9.10:

- 9.10.5 As a prerequisite to final payment, the contractor shall submit the following items to the architect, properly executed:
1. AIA Document G706, “Contractor’s Affidavit of Payment of Debts and Claims.”
 2. AIA Document G706A, “Contractors Affidavit of Release of Lien”, conditional upon receipt of final payment.

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3. AIA Document G707, “Consent of Surety to Final Payment”.
4. Guarantee by contractor and each subcontractor that the work will be free of defects in materials and workmanship for a period of one (1) year, except as otherwise specified. Form of guarantee shall be as included herein.

E.1-10 ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs

- 10.1.2 Delete the phrase “On which arbitration has not been demanded, or by arbitration under Article 4” from the last sentence.

Add the following subparagraph 10.1.5 to paragraph 10.1

- 10.1.5 The contractor will implement interim life safety measures to compensate for hazard posed by construction. The interim life safety measures will be maintained during the construction period so that life safety is not diminished in any occupied area; furthermore, to maintain a safe environment in the construction and adjacent areas.
Interim life safety measures will be implemented at project construction development and will be continuously enforced through construction completion.

10.2 Safety of Persons and Property

Add the following subparagraphs 10.2.4.1 and 10.2.4.2 to paragraph 10.2.4:

- 10.2.4.1 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary the contractor shall give the owner reasonable advance notice and secure owner’s written approval.
- 10.2.4.2 Contractor shall comply with OSHA Hazardous Communication Standard as described in the Code of Federal Regulations 29, part 1910.1200, effective May 23, 1988.

E.1-11 ARTICLE 11: INSURANCE AND BONDS

11.1 Contractor’s Liability Insurance

- 11.1.1.1 Delete the semicolon at the end of Clause 11.1.1.1 and add: “including private entities performing work at the site and exempt for the coverage on account of number of employees or occupation, which entities shall maintain voluntary compensation coverage at the same limits specified for mandatory coverages for the duration of the project.”

- 11.1.1.2 Delete the semicolon at the end of clause 11.1.1.2 and add: “or persons or entities excluded by statute from the requirements and clause 11.1.1.1 but required by the contract documents to provide the insurance required by that clause.”

Add the following clauses 11.1.1.8 and 11.1.1.9 to 11.1.1:

- 11.1.1.8 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:

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1. Premises Operations (including X, C, U, coverages as applicable)
2. Independent Contractor's Protective
3. Products and Completed Operations
4. Personal Injury Liability with Employment Exclusion deleted
5. Contractual, including specified provision for contractor's obligation under paragraph 3.18
6. Owned, non-owned and hired motor vehicles.
7. Broad Form Property Damage including Completed Operations.

11.1.1.9 If the general liability coverage are provided by a commercial general liability policy on a claims-made basis, the policy date or retroactive date shall predate the contract, the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment, certified in accordance with subparagraph 9.10.2.

Add the following clause 11.1.2.1 to subparagraph 11.1.2:

11.1.2.1. The insurance required by subparagraph 11.1.1 shall be written for not less than the following limits, or greater if required by law:

1. Workers' Compensation:
 - a. State: Statutory
 - b. Applicable Federal (i.e. Longshoremen's): Statutory
 - c. Employer's Liability \$500,000 per accident; \$500,000 Disease Policy Limit; 500,000 Disease each employee
2. Comprehensive or Commercial General Liability (including premises operations, independent contractor's protective, products and completed operations, broad form property damage)
 - a. Bodily Injury
\$1,000,000 each occurrence
\$1,000,000 aggregate
 - b. Property Damage
\$1,000,000 each occurrence
\$1,000,000 aggregate
 - c. Products and Completed Operations to be maintained for 7 years after final payment.
 - d. Property Damage Liability Insurance shall provide X, C, and U coverage.
 - e. Broad Form Property Damage Coverage shall include completed operations.
3. Contractual Liability:
 - a. Bodily Injury:
\$1,000,000 each occurrence
\$1,000,000 aggregate
 - b. Property Damage
\$1,000,000 each occurrence
\$1,000,000 aggregate

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4. Personal Injury with Employment Exclusion deleted:
\$1,000,000 aggregate
5. Business Auto Liability (including owned, non-owned and hired vehicles):
 - a. Bodily Injury:
\$1,000,000 each occurrence
\$1,000,000 aggregate
 - b. Property Damage:
\$1,000,000 each occurrence
6. If the general liability coverages are provided by a commercial liability policy, the:
 - a. General aggregate shall be not less than \$1,000,000 and it shall apply, in total, to this project only.
 - b. Fire damage limit shall be not less than \$500,000 on any one fire.
 - c. Medical expense limit shall be not less than \$500,000 on any one person.
7. Umbrella Excess Liability:
\$1,000,000 over primary insurance

11.1.3 Add the following sentence to subparagraph 11.1.3:
If this insurance is written on the Comprehensive General Liability policy form, the certificates shall be AIA Document G705, Certificate of Insurance. If this insurance is written on a commercial general liability policy form, ACORD form 25S will be acceptable.

11.2 Owner's Liability Insurance

11.2.1 Delete the last two sentences of subparagraph 11.2.1 and substitute the following: "The contractor shall purchase and maintain insurance covering the owner's contingent liability for claims which may arise from operations under the contract."

11.3 Property Insurance

11.3.1 Modify the first sentence of subparagraph 11.3.1 as follows: Delete "Unless otherwise provided, the owner" and substitute "the Contractor".

Add the following sentences:

The form of policy for this coverage shall be completed value. If the owner is damaged by the failure of the contractor to maintain such insurance, then the contractor shall bear all reasonable cost properly attributable thereto.

11.3.1.2 Delete clause 11.3.1.2

11.3.1.3 Delete clause 11.3.1.3

11.3.4 Delete subparagraph 11.3.4

11.3.5 Delete subparagraph 11.3.5
Delete subparagraph 11.3.6 and substitute the following:

11.3.6 Before an exposure to loss may occur, the contractor shall file with the owner two certified copies of the policy or policies providing this property insurance coverage, each containing those endorsements specifically related to the project. Each policy shall contain a provision that the policy will not be cancelled or allowed to expire until at least 30 days prior written notice has been given to the contractor.

11.3.8 Modify subparagraph 11.3.8 by substituting “Contractor” for “Owner” as fiduciary; except that the first reference to “Owner” in the first sentence, the word “this” should be substituted for “Owner’s”.

11.3.9 Modify subparagraph 11.3.9 by substituting “Contractor” for “Owner” each time the latter word appears.

Delete the phrase “, or in accordance with an arbitration award in which case the procedure shall be as provided in paragraph 4.5” from the third sentence.

11.3.10 Modify subparagraph 11.3.10 by substituting “Contractor” for “Owner” each time the latter word appears.

Delete the following text: “; if such objection be made, arbitrators shall be chosen...arbitrators will direct such distribution.”

11.4 Performance Bond and Payment Bond

Delete subparagraph 11.4.1 and substitute the following:

11.4.1 The contractor shall furnish bonds covering faithful performance of the contract and payment of obligations arising there under. Bonds may be obtained through the contractor’s usual source and the cost there of shall be included in the contract sum. The amount of each bond shall be equal to 100% of the contract sum.

11.4.1.1 The contractor shall deliver the required bonds to the owner not later than 3 days following the date the agreement is entered into, or if the work is to be commenced prior thereto in response to a letter of intent, the contractor shall, prior to the commencement of the work, submit evidence satisfactory to the owner that such bonds will be furnished.

11.4.1.2 The contractor shall require the attorney-in-fact who executed the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

E.1-13 ARTICLE 13: MISCELLANEOUS PROVISIONS

13.5 Test and Inspections

13.5.1 Modify the last sentence of subparagraph 13.5.1 by deleting the word “Owner” and substituting “Contractor” in its place.

Add the following paragraph 13.8 to Article 13:

13.8 Equal Opportunity

13.8.1 The contractor shall maintain policies of employment as follows:

13.8.1.1 The contractor and contractor’s subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, sex, national origin, age, veteran’s status, or handicapped (when otherwise qualified). The contractor shall take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, religion, sex, national origin, age, veteran’s status, or handicap (when otherwise qualified). Such action shall include but no be limited to the following: employment, upgrading, demotion or transfer,

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recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of nondiscrimination.

13.8.1.2 The contractor and the contractor's subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state consideration for employment without regard to race, religion, sex, national origin, age, veteran's status or handicap (when otherwise qualified).

13.9 CODES

13.9.1 INTERNATIONAL BUILDING CODE

The 2006 Edition of the International Building Code with all amendments including State of Georgia amendments as of date of opening of bids shall govern the construction of this project and is adopted and incorporated into the Contract Documents and is made a part thereof by reference, provided, however: That the drawings and specifications shall be adhered to in all cases where they call for quality of materials, quality of workmanship, or quality of construction which is equal to or in excess of the quality required by the International Building Code, and provided also; that there shall be no variances from the plans and specifications except to the extent that the said variances shall be necessary in order to comply with the International Building Code. It shall be the responsibility of the contractor to familiarize himself or herself with the requirements of the International Building Code. If there are any expressed requirements in the plans and/or specifications which are at variance to the International Building Code, all changes in the work, necessary to eliminate the said requirements and make the work conform to the International Building Code shall be adjusted as provided in the contract for changes in the work.

13.8.2 INTERNATIONAL PLUMBING CODE

The 2006 Edition of the International Plumbing Code with all amendments and State of Georgia Amendments as of date of opening of bids shall govern the installation of all work and is adopted and incorporated into the Contract Documents and is made a part thereof by reference, provided, however: that the drawings and specifications shall be adhered to in all cases where they call for quality of materials, quality of workmanship, or quality of construction which is equal to or in excess of the quality required by the International Plumbing Code, and provided also; that there shall be no variances from the plans and specifications except to the extent that the said variances shall be necessary in order to comply with the International Plumbing Code. It shall be the responsibility of the contractor to familiarize himself or herself with the requirements of the International Plumbing Code. If there are any expressed requirements in the plans and/or specifications which are at variance to the International Plumbing Code, all changes in the work, necessary to eliminate the said requirements and make the work conform to the International Plumbing Code shall be adjusted as provided in the contract for changes in the work.

13.8.3 INTERNATIONAL FUEL GAS CODE

The 2006 Edition of the International Fuel Gas Code with all amendments and State of Georgia Amendments as of date of opening of bids shall govern the construction of this project and is adopted and incorporated into the Contract Documents and is made a part thereof by reference, provided, however: That the drawings and specifications shall be adhered to in all cases where they call for quality of materials, quality of workmanship, or quality of construction which is

equal to or in excess of the quality required by the International Fuel Gas Code, and provided also; that there shall be no variances from the plans and specifications except to the extent that the said variances shall be necessary in order to comply with the International Fuel Gas Code. It shall be the responsibility of the contractor to familiarize himself or herself with the requirements of the International Fuel Gas Code. If there are any expressed requirements in the plans and/or specifications which are at variance to the International Fuel Gas Code, all changes in the work, necessary to eliminate the said requirements and make the work conform to the Standard Fuel Gas Code shall be adjusted as provided in the contract for changes in the work.

13.8.4 NATIONAL ELECTRICAL CODE

The 2005 Edition of the National Electrical Code with all amendments as of date of opening of bids shall govern the construction of this project and is adopted and incorporated into the Contract Documents and is made a part thereof by reference, provided, however: That the drawings and specifications shall be adhered to in all cases where they call for quality of materials, quality of workmanship, or quality of construction which is equal to or in excess of the quality required by the National Electrical Code, and provided also; that there shall be no variances from the plans and specifications except to the extent that the said variances shall be necessary in order to comply with the National Electrical Code. It shall be the responsibility of the contractor to familiarize himself or herself with the requirements of the National Electrical Code. If there are any expressed requirements in the plans and/or specifications which are at variance to the National Electrical Code, all changes in the work, necessary to eliminate the said requirements and make the work conform to the National Electrical Code shall be adjusted as provided in the contract for changes in the work.

13.8.5 LIFE SAFETY CODE

The 1997 Edition of the Life Safety Code, NFPA 101 shall govern the construction of this project and is adopted and incorporated into the Contract Documents and is made a part thereof by reference, provided, however: That the drawings and specifications shall be adhered to in all cases where they call for quality of workmanship, or quality of construction which is equal to or in excess of the quality required by the Life Safety Code, and provided also; that there shall be no variances from the plans and specifications except to the extent that the said variances shall be necessary in order to comply with the Life Safety Code. It shall be the responsibility of the contractor to familiarize himself or herself with the requirements of the Life Safety Code. If there are any expressed requirements in the plans and/or specifications which are at variance to the Life Safety Code, all changes in the work, necessary to eliminate the said requirements and make the work conform to the Life Safety Code shall be adjusted as provided in the contract for changes in the work.

13.8.6 INTERNATIONAL MECHANICAL CODE

The 2006 Edition of the International Mechanical Code with all amendments and State of Georgia Amendments as of date of opening of bids shall govern the construction of this project and is adopted and incorporated into the Contract Documents and is made a part thereof by reference, provided, however: That the drawings and specifications shall be adhered to in all cases where they call for quality of materials, quality of workmanship, or quality of construction which is equal to or in excess of the quality required by the International Mechanical Code, and provided also; that there shall be no variances from the plans and specifications except to the extent that the said variances shall be necessary in order to comply with the International Mechanical Code. It shall be the responsibility of the contractor to familiarize himself or herself with the requirements of the International Mechanical Code. If there are any expressed requirements in the plans and/or specifications which are at variance to the International Mechanical Code, all changes in the work,

necessary to eliminate the said requirements and make the work conform to the International Mechanical Code shall be adjusted as provided in the contract for changes in the work.

13.8.7 AMERICANS WITH DISABILITIES ACT OF 1990

The American With Disabilities Act Of 1990 with all amendments as of the date of the opening of bids shall govern the installation of all work and is adopted and incorporated into the Contract Documents and is made a part thereof by reference, provided, however: that the drawings and specifications shall be adhered to in all cases where they call for quality of materials, quality of workmanship, or quality of construction which is equal to or in excess of the quality required by the Americans With Disabilities Act Of 1990, and provided also; that there shall be no variances from the plans and specifications except to the extent that the said variances shall be necessary in order to comply with the Americans With Disabilities Act Of 1990. It shall be the responsibility of the contractor to familiarize himself or herself with the requirements of the Americans With Disabilities Act Of 1990. If there are any expressed requirements in the plans and/or specifications which are at variance to the American With Disabilities Act Of 1990, all changes in the work, necessary to eliminate the said requirements and make the work conform to the Americans With Disabilities Act Of 1990 shall be adjusted as provided in the contract for changes in the work.

E.1-14 ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT

Add the following paragraph 14.4 to Article 14:

14.4 Termination by the Owner for Convenience

14.4.1 The owner may, at any time, terminate the contract for the owner's convenience and without cause.

14.4.2 Upon receipt of written notice from the owner of such termination for the owner's convenience, the contractor shall:

- .1 cease operations as directed by the owner in the notice;
- .2 take actions necessary, or that the owner may direct for the protection and preservation of the work; and
- .3 except the work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

14.4.3 In case of such termination for the owner's convenience, the contractor shall be entitled to receive payment from the owner on the same basis provided in subparagraph 14.1.2.

END OF SECTION

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SECTION F - SPECIAL CONDITIONS

1. OWNER'S REPRESENTATIVE

- A. The Owner's Representative shall be Kaye Minchew
All documentation required by the specifications to be submitted to the "Owner" shall be submitted to the Architect for transmittal to the Owner.
- B. All instructions and requests for changes from the Owner to the contractor will be issued through the "Architect" PROVIDED: that the Engineer shall not have the authority to authorize changes in the work which shall mean changes to the contract sum. PROVIDED FURTHER: that the "Engineer" will request and review Contractor's proposal for such changes and will submit recommendations to the owner for issuance for change orders.
- C. Changes in the contract sum shall be authorized in writing solely by the Owner.
- D. Except as provided herein above, the contractor shall disregard any instructions from persons other than "Architect".
- E. Should a situation arise, in conflict with these requirements, the contractor shall notify the "Architect" immediately.
- F. The Contractor shall bear all costs incurred by his failure to follow the instructions contained in paragraphs A, B, C, D, E above.

2. UTILITIES: SEE SECTION 01501 - Temporary Facilities and Controls

3. STORAGE AREAS

- A. Location: Space for materials storage at the site is limited. Storage of all items shall be at the discretion of the contractor as designated by the Owner. Provide storage trailers as required. At completion of the work, material and debris shall be removed.
- B. Storage: All materials not used at the end of the day shall be returned to the designated storage areas.

4. EXISTING CONDITIONS: The Contractor, in undertaking the work under this contract, is assumed to have visited the premises and to have taken into consideration all conditions which might affect his work. No consideration will be given any claim based on lack of knowledge of existing conditions except where the contract documents make definite provisions for adjustment of cost or extension of time due to existing conditions which cannot be readily ascertained.

Existing utilities shall not be interrupted or disturbed in any way without the written approval of the Owner of the utility in question. All liability shall be borne by the Contractor and he or she shall save the Owner and the Architect and their agents and employees harmless from all claims arising out of the unauthorized interruption or disturbance of any existing utility.

All workers shall be expected to exhibit acceptable behavior and dress.

A. EXISTING FACILITIES TO BE KEPT IN OPERATION:

Refer to Sheet A1-1 for important information concerning operation of the existing facility during construction.

5. ACTS AND EXECUTIVE ORDERS: The contractor, by signing the contract, acknowledges that he or she is aware of and familiar with the contents and requirements of the following acts and executive orders:
 - A. High Voltage Act
 - B. Underground Gas Pipe Law - Georgia law 1969, PP.50-57.
 - C. Williams Steiger Occupational Safety and Health Act of 1970.
 - D. The non-discrimination clause contained in Section 202 Executive Order 11246 as amended by Executive order 11375 relative to Equal Opportunity for all persons without regard to race, color, religion, sex or national origin and the implementing rules and regulations described by the Secretary of Labor are incorporated.
 - E. Public Employee Hazardous Chemical Protection and Right To Know Act: O.C.G.A. Sec. 45.22 (1988 H.B.No.503).3.
 - F. Drug Free Workplace Act - O.C.G.A. Sec.50-24 (1990 H.B.No.9).
 - G. State of Georgia "Call-Before-You-Dig-" Law. Requirements following:
 1. Notification must be made to the Utilities Protection Center 1990 Lakeside Parkway, Tucker, Georgia 30084. Telephone No. 800-282-7411 during UPC business days Monday through Friday (excluding holidays), during business hours of 7:00a.m. to 4:00 p.m.
 2. The call must be made 72 hours prior to excavation and must include location of excavation, name, address, and phone number of the company or person excavating, type of excavation and start date.
 3. If the excavation is not finished in 17 days, additional notice must be given no later than 14 days from the day of the first notification.
 4. If blasting is required after notice is given, Contractor must call back to update location request or "ticket".
 5. This law applies to all mechanized equipment, from drag lines to pile drives.
 6. All electric, gas, telephone, and cable TV utilities in the state are required to be members of the UPC. If underground facilities are cut that belong to a utility that is required to be UPC member, but is not, the Contractor is not liable.
 7. Violators can be fined from \$1,000 to \$3,000 plus the cost of replacing or

repairing damaged facilities and any injury to persons or property.

6. **ACCESS TO PREMISES:** Ingress and egress shall be limited to the construction entrance as shown on the drawings to the subject work areas. Any debris dropped or tracked outside of areas in which work is being done, shall be immediately cleaned up.
7. **SUBMITTALS:** The Contractor agrees that submittals of equipment and material and submittals of shop drawings of equipment and materials layouts required from the Contractor under provisions of these specifications and processed by the Architect are not Change Orders and that the purpose of the said submittals by the Contractor is to demonstrate the Contractor understands the design concept of the project by indicating which equipment and materials he or she intends to furnish and install and by detailing the installation he or she intends to achieve.
8. **SHOP DRAWINGS:**
 - A. **General:** The contractor shall check data to ensure compliance with specifications and check and verify field measurements, and shall review, approve and stamp each copy submitted with date and name of person making review before submitting them to the Architect. Six copies of all shop drawings shall be submitted to the Architect, four (4) of which will be returned to the Contractor and one (1) copy to the Owner's Representative. Where additional copies are required by the Contractor, the extra copies shall be furnished accordingly. Sufficient copies for maintenance manuals shall be submitted.
 - B. **Identification:** All submittal data shall be identified to show project name, specification section, drawing or detail number, room number, date, revision date, contractor and subcontractor's name, and the model, style and size of item being submitted. Manufacturer's standard drawings shall be modified by deletions or additions to show clearly only items applicable to this project.
 - C. **Review.**
 1. The Contractor agrees that submittals of equipment and material and shop drawings of equipment and material layouts required under provisions of these specifications and processed by the Architect are not Change Orders. The purpose of submittals is to demonstrate that the Contractor understands the design concept of the project by indicating the equipment and materials he or she intends to furnish and install, and by detailing the installation he or she intends to achieve.
 2. The Contractor shall conform to the requirements of the Contract Documents unless a change order or a specific letter of clarification is issued. The Contractor shall identify on each submittal and in letter form to the Architect any and all deviations from the contract documents.
 3. Any submittal or shop drawings not conforming to the contract documents without this identification and notification shall be assumed to be marked "Revise and Resubmit", and the contractor shall promptly re-submit said submittal so as to be in full compliance with the contract documents.
 4. Failure of the Contractor to provide this information during the shop drawings phase shall make the Contractor responsible for all changes to achieve compliance with the contract documents.
9. **SCHEDULING AND PHASING OF WORK:** After award of contract, a pre-

construction meeting shall be held at the site between the Owner's representative, representative of the Contractor, and representatives of the Architect to review the project and set up the approximate work schedule. With ten (10) days of this meeting, the Contractor shall submit five (5) typed copies of the work sequence schedule, showing proposed dates of beginning completion milestones and completing work, to the Architect for approval. A CPM schedule will also be required, subject to Architect's approval. All new construction work must be substantial complete and owner occupied prior to beginning work on renovation phases of the existing building. All new construction and renovations must be substantially completed within 300 consecutive calendar days. Refer to Sheet A1-1 of the drawings for additional information on phasing of this Project.

10. VANDALISM

The Contractor shall take every precaution not to leave equipment and materials where they can be reached and used for defacing new or existing work at any time and in particular at night and on the weekends.

11. PROGRESS REPORTS:

- A. Prior to submitting the first periodical estimate, the contractor shall have furnished to the Owner and the Architect, a construction progress schedule that outlines each phase of work. The Contractor shall adhere to the schedule and update it prior to each subsequent request for payment. Failure to adhere to the schedule shall be admittance on the part of the Contractor that he or she is behind schedule and corrective steps, at no cost to the Owner, must be taken to bring the job back on schedule.
- B. Cost Breakdown: Contractor shall furnish a complete cost breakdown for all materials installed and for each phase of the work. The cost of breakdown will be furnished prior to the first request for payment. This cost breakdown will reflect the Project Schedule and illustrate the estimated monthly Request for Payment.

12. COMMUNICATIONS.

- A. All notices, demands, requests, instructions, approvals, proposals and claims must be in writing. Requests for clarifications and instruction concerning the drawings or specifications shall be submitted to the Architect by mail or facsimile transmission on the Request For Information form in Sect. I. Only written and signed instructions will be considered binding and a part of the Construction Documents.
- B. Any notice to demand, request instruction to, proposal to, or claim upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated in Owner-Contractor Agreement (or at such office as he may designate in writing to the Owner), or deposited in the United States mail in a sealed, postage paid envelope, or if delivered with charges prepaid to any telegraph company or transmission, in each case addressed to said office.
- C. All papers required to be delivered to the Owner shall, unless otherwise specified in writing to the Contractor, be delivered to:

MUSEUM ON MAIN
136 MAIN STREET
LAGRANGE, GEORGIA 30240

ATTENTION: KAYE MINCHEW
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and any notice to, demand, request, instruction, approval, proposal, or claim upon the Owner shall be sufficiently given if delivered, or deposited in the United States mail in a sealed, postage paid envelope, or delivered charges prepaid to any telegraph company for transmission to said individual at said address or such other representatives of the Owner may subsequently specify in writing to the Contractor for such purpose.

D. All papers required to be delivered to the Architect shall be delivered to:

SMITH DESIGN GROUP, INC.
307 CHURCH STREET
SUITE B
LaGRANGE, GEORGIA 30240

and any notice to, demand, request, proposal, or claim upon the Architect shall be sufficiently given if delivered, or deposited in the United States mail in a sealed, postage paid envelope, or delivered charges prepaid to any telegraph company for transmission to said Architect at said address.

E. Any notice, demand, request, instruction, approval, proposal, or claim shall be deemed to have been given as of the time of actual delivery or (in case of mailing) when the same should have been received in due course of post, or in the case of telegrams, at the time of actual receipt, as the case may be.

13. LAYING OUT WORK:

The Contractor shall verify all existing conditions and contiguous work and lay out his or her work therefrom, providing for himself all other necessary measurements, lines and levels, and shall assume the responsibility for the correctness of the laying out of the work.

14. EXISTING PLANTING:

Construct protective tree fencing as described in the construction documents as indicated around tree save area. Storage or parking in the areas is not allowed.

15. SIGNS:

The Contractor shall cause no signs to be displayed at the site unless specifically authorized in writing by the Owner, except however, the Contractor shall furnish, erect and maintain such signs required by safety regulation to safeguard life and property.

16. NOTIFICATION TO OWNER WHEN CONTRACTOR VISITS SITE AFTER FINAL INSPECTION:

- A. When the Contractor's representative visits the job site after the final inspection to perform specific work such as maintenance service, seasonal balance, or to correct a deficiency, the Contractor shall notify the Owner not less than 48 hours prior to the date on which they will visit the site, except under an emergency condition.
- B. The Contractor shall visit the designated office of the Owner to notify the Owner that the Contractor is on the site prior to visiting the site, thereby enabling the Owner representative to accompany the Contractor, should they so desire while the Contractor is on the project site.

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- C. An exact copy of the notification shall be provided to the Architect with the intent of the site visit. After the Contractor has completed the site visit, the Contractor shall give a written report of the action taken and any incomplete work yet to be performed to the Architect within five (5) days.

17. FIRE MARSHAL DRAWINGS:

- A. The Architect will deliver to the Contractor the set of drawings approved by the Fire Marshal. The Contractor shall maintain custody of these documents in a clean, unmarked condition at the job site for ready reference by the Fire Marshal during job visits.
- B. This set of documents shall be returned to the Architect with the Final Request for Payment and the Certificate of Occupancy by the Fire Marshal or receipt for same.
- C. The Contractor is subject to a fine of \$1500 by the State Fire Marshal if a Fire Marshal representative visits the job site and the Fire Marshal approved plans and specifications are not available.

18. ALL GLASS - FIBER PRODUCTS, INCLUDING INSULATION

All Glass-Fiber products, including insulation are to carry carcinogen warning labels as required by the Department of Labor.

19. HAZARDOUS MATERIALS:

- A. A/E's Responsibility: Plans and specification have been prepared by the A/E for the Owner without the A/E having conducted investigation as to the presence of asbestos or hazardous waste on the project. Not being a part of this contract, the A/E has not charged any fees and has not and will not advise the Owner with regard to the detection and/or removal of asbestos or hazardous waste. the Owner is aware that asbestos or hazardous waste could be present and will make all decisions with regard to its removal. The removal of all hazardous materials and encapsulation of remaining surfaces is the sole responsibility of the Owner.
- B. Friable Materials: If the Contractor observes the existence of friable materials which must be disturbed during the course of his work, Contractor shall promptly notify Owner and Architect. Owner shall make all arrangements regarding testing and removal or encapsulation of asbestos materials if present. The Contractor shall not perform any work pertinent to the friable material prior to receipt of special instructions from the Owner through the Architect. "Friable Material" is any material which can be crumbled, pulverized or reduced to a powder by hand pressure when dry.

20. ASBESTOS (ACBM):

- A. Specifications written for equipment and materials in the specifications are intended to eliminate any asbestos containing substance. The Contractor and his suppliers are hereby notified that **NO ASBESTOS CONTAINING PRODUCT IS PERMITTED**. If a product is listed in these specifications which contain asbestos, the Contractor and his or her supplier shall so inform the A/E immediately and shall not deliver such product to the project site until additional written instructions are received.

- B. Upon completion of construction, and prior to final inspection, the Contractor(s) for work performed under this division of the specifications shall be required to provide a certificate to the A/E in the following form.

CERTIFICATION FOR ASBESTOS CONTAINMENT

I / we _____
(Sub-contractor)
certify that there is no asbestos contained in materials provided and/or installed by us in

(Project / Building)

WITNESS: _____ DATE: _____
(Notary Public) CONTRACTOR: _____

BY: _____

TITLE: _____

21. NOTIFICATION OF JOB SITE OBSERVATIONS

Recommended observations by Mechanical / Electrical Engineers at the following stages of construction for a Mechanical / Electrical design project. General contractor to notify Architect 48 hours prior to each of the following:

- A. Plumbing:
1. First major portion of underfloor piping before being covered.
 2. Roughing of water, waste and vent piping for first major toilet battery.
 3. All overhead piping upon completion of pipe insulation and prior to insulation of ceiling.
- B. Air Conditioning:
1. First major portion of ductwork prior to being insulated.
 2. First major portion of piping prior to being insulated.
 3. All overhead ductwork and piping upon completion of insulation but prior to installation of ceiling.
- C. Electrical:
1. Substantially completed conduit system prior to wire pulling.
 2. Completion of major wire pulling and energizing of distribution panels.
 3. Substantially completed installation of lighting fixtures prior to installation of ceiling.
- D. Fire Protection: All overhead piping prior to installation of ceiling.
- E. All Systems:
1. Upon written notification of the contractor that the installation is 100% complete.
 2. A second inspection to insure that all items noted at final inspections have been corrected.

END OF SECTION

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SECTION G - STATEMENT OF WORK

G-01 WORK TO BE DONE

The work covered by this contract consists of furnishing all plant, labor, equipment, and materials and performing all operations required to accomplish all the work required by the Project Manual entitled, "Museum on Main ", located in LaGrange, Georgia, and the Drawings similarly entitled, all dated 02 APRIL 2007 in strict accordance therewith and subject to the terms and conditions of the Contract.

G-02 DESCRIPTION AND LOCATION OF SITE:

1. The site of this work is located at 136 Main Street, LaGrange, Georgia.
2. Verify with Owner exact location of storage trailer and equipment. Six foot high chain link fence is required around entire construction area.
3. The general contractor is to replace any damaged grass due to construction with permanent grass sod to match existing.

G-03 ACCESS TO PROPERTY:

Access to the property is to be from Broome Street only. The public alley on the West side may be used on limited basis only. The alley on the North side of the building maybe used for equipment storage.

END OF SECTION

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SECTION H - PROJECT CLOSE-OUT

H-01 GENERAL:

In order to insure an orderly and efficient transfer of the project to the Owner, prepare, assemble and transmit to the Architect the closing documents hereinafter described.

H-02 TIME OF TRANSMITTAL:

After receiving the Certificate of Substantial Completion and in no case, not later than the date of the Contractor's request for Final Inspection, the Contractor shall transmit to the Architect the closing documents. Final inspection will not take place until all required closing documents have been received by the Architect.

H-03 NUMBER OF COPIES:

Unless specifically noted otherwise hereinafter, three copies of all closing documents shall be submitted.

H-04 IDENTIFICATION:

All bound documents shall be identified by the use of an embossed plastic tape on the front cover, showing the project name and number, the nature of the information contained in the document (i.e. A/C Maintenance Manual for Roof Mounted Units, A/C1, A/C2, etc.), name of General Contractor and name of Subcontractor who made the installation.

H-05 REQUIRED PRIOR TO FINAL PAYMENTS

1. "Fire Marshal" Approved Set of Architectural Plans - **One Set**
2. Fire Sprinkler Plans as approved by GA State Fire Marshall & City of LaGrange Fire Marshall - **One Set**
3. "As-Built Plans" - **One Set**
4. "As-Built Specifications" with addenda & Change Orders - **One Set**
5. Fire Sprinkler As-Built Drawings - - **Three Copies**
6. Electrical As-Built Drawings - **One Set**
7. List of Subcontractors and Suppliers - **Three Copies**
8. Warranty by General Contractor - **Three Copies**
9. Contractor's Affidavit of Payment of Debts and Claims - **Three Copies**
10. Contractor's Affidavit of Release of Liens - **Three Copies**
11. Statutory Affidavit - **Three Copies**
12. Non-Influence Affidavit - **Three Copies**
13. Millwork Warranty - **Three Copies**

14. Sealants Five Year Warranty - **Three Copies**
15. Roof System Warranty - **Three Copies**
16. Receipt of Keys - **Three Copies**
17. Metal Stud/Drywall/Acoustical Ceilings/Insulation Warranty Three Copies
18. Painting Warranty -**Three Copies**
19. Wood Gym Floor - **Three Binders**
20. Kitchen Equipment – Binder of Warranties and Operation & Maintenance Manual - **One Copies**
21. Stage Curtain Warranties and Operation & Maintenance Manual - **Four Copies**
22. Pews – Warranties and Maintenance Data - **Three Binders**
23. HVAC – Test and Balance Reports - **Three Copies**
24. Plumbing – Warranty - **Three Copies**
25. Fire Sprinkler – Warranty - **Three Copies**
26. Fire Sprinkler – Backflow Test Reports - **Three Copies**
27. Electrical Warranty - **Three Copies**

H-06 REQUIRED CLOSING DOCUMENTS:

- 5.1 Warranty by General Contractor: Sample form is included in Section I of this project manual.
- 5.2 Statutory Affidavit by General Contractor: Sample form is included in Section I of this project manual.
- 5.3 Non-influence Affidavit by General Contractor: Sample form is included in Section I of this project manual.
- 5.4 Inspection Reports: The Contractor shall contact each of the agencies to set up inspections. The Contractor shall secure and submit to the Owner, a Certification from the local Governmental Agency or Agencies that the construction has been inspected as required by laws or ordinances and that the building (buildings) is (are) acceptable to the following authorities:
 - a. Local Building Inspector (where applicable)
 - b. Local Plumbing Inspector (where applicable)
 - c. Local Electrical Inspector (where applicable)
 - d. Local Fire Marshal w / occupancy permit
 - e. State Elevator Inspector (where applicable)
 - f. State Health Department (where applicable)

H – 2

g. State Fire Marshal w / occupancy permit.

5.5 Project Record Documents: (one copy)

Contractor's attention is called to Section 01502 of this project manual for a complete description of the required documents.

5.6 Maintenance and Operation Manuals & Parts List:

Contractor's attention is called to the fact that various sections of this project manual require that maintenance manuals, operation manuals and parts list are to be furnished.

5.7 Warranties for Items Beyond One Year Limit:

The following items generally require a warranty in excess of the normal "one year" guarantee and are so described in various sections of this project manual; this list is not necessary all inclusive and should any warranties called for in a section of this project manual be omitted from the following list, the section requirement shall govern:

- a. Hot water heaters
- b. Electric water coolers
- c. Residential appliances (omitted)
- d. Commercial appliances
- e. Air conditioning compressors

5.8 Extra Stock:

The following "extra stock" is required as described in various sections of this project manual.

- a. Ceramic tile (each type, size and color)
- b. Ceiling tile (each type, size and color)
- c. Resilient tile flooring (each type, size and color)
- d. Resilient base (each type, size and color)

H-07 CHECK - OFF LIST:

General Contractor is to submit all close-out documents in bound and permanently labeled 3-ring notebooks and as-built drawings together at one time prior to Architect's approval of release of any retainage. Please see Section H-05 "Required for Final Payment" for check off list. Additional items may be required due to job specific requirements.

END OF SECTION

SECTION I - SAMPLE FORMS

I-01 GENERAL

The Bidding Documents make reference to various forms that are required to be executed as a part of work of the project.

I-02 FORMS

1. The specimen forms are included hereinafter for the bidders information only:
 - a. Statutory Affidavit
 - b. Warranty by General Contractor
 - c. Non-Influence Affidavit
 - d. Certificate of Final Completion
 - e. Change Order Form
 - f. Modification to Standard Form of Agreement
 - g. Progress Schedule (example) (not included)
 - * h. Certificate of the Contractor of his duly authorized representative, DE Form 0263, revised Jan. 1990 (not included)
 - * i. Summary of Materials Stored, DE Form 0264 (not included)
 - * j. Schedule of Change Orders, DE Form 0265 (not included)
 - k. Request For Information
 - l. Subcontractor / Vendor Directory
 - * Indicates that these forms are to be used with Application and Certificate for Payment, AIA Document G702 (See also Article 1-02, .2, e and f of this section).

2. The following documents are not bound herein, however upon written request, the Architect will furnish any Bidder a copy of any of the documents listed:
 - a. Bid Bond, AIA Document A310.

 - b. Standard Form of Agreement between Owner and Contractor where the Basis of Payment is a Stipulated Sum, AIA Document A101.

 - c. Performance Bond and Payment, AIA Document A312.

 - d. Certificate of Insurance, AIA Document G705

 - e. Application and Certificate for Payment, AIA Document G702.

 - f. Continuation Sheet, AIA Document G703.

 - g. Certification of Substantial Completion, AIA Document G704.

 - h. Contractor's Affidavit of Release of Lien's, AIA Document G706.

 - i. Consent of Surety to Final Payment. AIA Document G707.

STATUTORY AFFIDAVIT

specimen a.

COUNTY OF _____

STATE OF _____

FROM _____
(contractor)

To: (insert name of Owner), Owner

RE: Contract entered into the _____ day of _____, 2000, between
the above-mentioned parties for the construction of a _____
at _____

KNOW ALL MEN BY THESE PRESENTS:

1. The undersigned hereby certifies that all work required under the above contract has been performed in accordance with the terms thereof, that all materialmen, subcontractors, mechanics, and laborers have been paid and satisfied in full, and that there are no outstanding claims of any character (including disputed claims or any claims to which the contractor has or will assert any defense) arising out of the performance of the contract which have not been paid and satisfied in full,
2. The undersigned further certifies that to the best of his knowledge and belief there are no unsatisfied claims for damages resulting from injury or death to any employees, subcontractors, or the public at large arising out of the performance of the contract, or any suits or claims for any other damage of any kind, nature, or description which might constitute a lien upon the property of the owner.
3. The undersigned makes this affidavit for the purpose of receiving final payment in full settlement of all claims against the owner arising under or by virtue of the contract, and acceptance of such payment is acknowledged as a release of the owner from any and all claims arising under or by virtue of the contract.

This _____ day of _____, 2007

Signature

Title

Firm

COUNTY OF _____

STATE OF _____

Personally before me, the undersigned authority, appeared _____,
who is known to me to be an official of the firm of _____, who, after being duly
sworn, stated on his or her oath that he or she had read the above statement and that the same is true and correct.

Notary Public

My commission expires _____

This _____ day of _____, _____.

**MODIFICATION to STANDARD FORM
OF AGREEMENT BETWEEN OWNER AND
CONTRACTOR where the basis of
payment is a STIPULATED SUM -
1997 Edition AIA Document A101**

The following Modifications change, modify, delete from or add to the "Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum", 1997 Edition, AIA Document A101, hereinafter referred to as the "Agreement". Where any Article, Paragraph, Subparagraph or Clause of the "Agreement" is changed, modified, deleted from or added to, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

ARTICLE 5 PROGRESS PAYMENTS

Articles 5.1 through 5.8 inclusive, are deleted in their entirety and the following substituted therefor:

5.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect to the Owner, the Owner shall make progress payments on account of the Contract as follows:

- .1 On or about the 15th day of each month 90 percent of the value, based on the contract prices, of labor and materials incorporated in the work and of materials suitably stored at the site thereof up to the 1st day of that month, as estimated by the Architect, less the aggregate of previous payments, until one-half of the Contract Sum is due. If the work is
 - (a) on or ahead of the construction schedule; and
 - (b) there are no breaches of Orders of Rejections; and
 - (c) there is no delinquency in the filing of the final breakdown and accounting, together with appropriate supporting data on the work performed under Subparagraph 7.3.6 of the General Conditions when one-half of the Contract Sum is due no further retainage will be withheld by the Owner from payments to the Contractor unless
 - Event (a) The percentage of the work complete falls behind the percentage required by the construction schedule by as much as 15 percent; or
 - Event (b) The Contractor breaches an Order of Rejection; or unless
 - Event (c) The Contractor becomes delinquent in regard to filing the final breakdown and accounting together with appropriate supporting data, on work performed under Subparagraph 7.3.6 of the General Conditions,

in which event or events the Owner shall reinstate the 10 percent retainage on all progress payments due to be paid while one or more of the events continues to exist. The Contractor will be given written notice of the reinstatement of the retainage. If the Contractor

- (a) Recovers all lost time and puts the work back on schedule; and
- (b) Remedies all breaches of Orders of Rejections; and
- (c) Supplies a proper breakdown and accounting on work performed under Subparagraph 7.3.6 of the General Conditions

The sums withheld while either or all of the events existed will be converted to a additional lump sum and held by the Owner until final completion, and no further retainage will be withheld unless

- (1) Event (a) recurs, or
- (2) Event (b) recurs, or
- (3) Event (c) recurs

In which event or events the Owner shall reinstate the 10 percent retainage on all subsequent payments to the Contractor. At the discretion of the Owner, the retainage of each Subcontractor may be released separately as he or she completes his or her work. An application for release of a Subcontractor's retainage shall bear the certificates of the Subcontractor, the Contractor and the Architect that the Subcontractor's work has been fully performed and that the sum for which payment is requested is due by the Contractor to the Subcontractor. Checks releasing a Subcontractor's retainage shall be made payable to the Contractor, the Contractor's surety and the Subcontractor and shall be mailed to the Contractor's surety. This article does not create any contractual relationship between the Owner and the Subcontractor or any duty of the Owner to any Subcontractor. All warranties shall run from the date of the final certificate of the Architect unless otherwise expressly provided in the Contract. Payments pursuant to this article shall in no way diminish, change, alter or affect the right of the Owner under Contract Documents.

It has been agreed to as of the ____ day of _____ in the year Two Thousand.

Owner

Contractor

By: _____
(Signature)

By: _____
(Signature)

(Printed Name & Title)

(Printed Name & Title)

By: _____
(Signature)

By: _____
(Signature)

(Printed Name & Title)

(Printed Name & Title)

**WARRANTY BY
GENERAL CONTRACTOR**

specimen b.

PROJECT:
(name,address)

ARCHITECT: Smith Design Group, Inc.

TO (Owner)

ARCHITECT'S PROJECT NUMBER:

**CONTRACTOR:
CONTRACT FOR:**

DATE OF ISSUANCE:

CONTRACT DATE:

_____, as General Contractor on the above job do hereby guarantee that all work executed under the Plans and Specifications will be free from defects of materials and/or workmanship for a period of ONE YEAR, beginning _____ and ending _____ and that all defects occurring within the warranty period shall be replaced or repaired at the Contractor's expense to the Owner.

This guarantee covers all work as shown on the Plans and specified in the Specifications and Contract Documents.

Nothing in the above shall be deemed to imply that this guarantee shall apply to any work which has been abused or neglected by the Owner.

Legal Name of Contractor

BY:

TITLE:

Notary Public

This _____ day of _____, 20____.

NON-INFLUENCE AFFIDAVIT

specimen c.

COUNTY OF _____

STATE OF _____

FROM _____

(Contractor)

To: (insert name of owner), Owner

Re: Contract entered into the _____ day of _____, 2007, between the above-mentioned part
for the construction of a _____
at _____

KNOW ALL MEN BY THESE PRESENTS:

I do solemnly swear on my oath that as to the contract dated _____, 19____
between _____ and the _____

I have no knowlege of the exertion of any influence or the attempted exertion of any influence on the firm
behalf of which this affidavit is made in any way, manner, or form in the purchase of materials, equipment
other items involved in construction, manufacture, or employment of labor under the aforesaid contract by
Owner or any employee of the Owner, or any person connected with the Owner in any way whatsoever.

In witness whereof, the undersigned has signed and sealed this instrument

This _____ day of _____, 2007.

(L.S.)

Signature

Title

Firm

COUNTY OF _____

STATE OF _____

**CERTIFICATE OF
FINAL
COMPLETION**

Distribution to:

specimen d.

OWNER	<input type="checkbox"/>
ARCHITECT	<input type="checkbox"/>
CONTRACTOR	<input type="checkbox"/>
FIELD	<input type="checkbox"/>
OTHER	<input type="checkbox"/>

PROJECT:
(name,address)

ARCHITECT:

ARCHITECT'S PROJECT NUMBER:

TO (Owner):

CONTRACTOR:

CONTRACT FOR:

DATE OF ISSUANCE:

CONTRACT DATE:

In accordance with the Contract documents and to the best of his or her knowledge, information and belief, on basis of his observations, on-site observation and final observation held on _____ the Architect certifies to the Owner that the work has been completed in accordance with the terms and conditions of the Contract Documents; and that the Contractor is entitled to Final Payment as certified by him in Contractor's Application for Payment.

Acceptance of this Certificate of Final Completion by the Owner and the Contractor shall in no way waive or modify the terms and conditions of the Contract Documents.

SMITH DESIGN GROUP, INC.

By: _____
Project Architect

APPROVED AND AGREED:

CONTRACTOR

**** CHANGE ORDER ****

specimen e.

SMITH DESIGN GROUP, INC.

307 Church Street
LaGrange, GA 30241
(706) 882-5511
Fax# (706) 883-7777

DATE: _____

CHANGE ORDER: _____

JOB NO.: _____

CONTRACT FOR: _____

CONTRACT DATE: _____

To: (Contractor)

You are directed to make the following changes in this contract:

Description	Unit Price	Total

Original Contract sum: \$ _____

Net(Addition)(Deduction)of all approved change orders: \$ _____

Total Adjusted Contract Price prior to this change order: \$ _____ 0.00

This Change Order No. _____ (Add)(Deduct): \$ _____ 0.00

Total Current Adjusted Contract Price: \$ _____ 0.00

Recommended For Owner's Acceptance:

Approved And Agreed:

SMITH DESIGN GROUP, INC.

Contractor

REQUEST FOR INFORMATION

specimen k.

TO:	Smith Design Group, Inc. 307 Church Street, Suite B LaGrange, GA 30240	REQUEST FOR INFORMATION # _____
ATTENTION:		DATE: _____ JOB# _____
PROJECT:		REFERENCE SHEET NO.: _____ DETAIL: _____
		VIA: _____ FAX: _____ MAIL: _____
QUESTION:		
SIGNED: _____ DATE: _____		
ANSWER REQUIRED BY (DATE): _____		
ATTACHMENTS: YES () NO () COPIES TO: _____		
ANSWER:		

SUBCONTRACTOR / VENDOR DIRECTORY		PROJECT: specimen L.		
		DATE:		JOB NO.:
		BY:		PAGE: OF
#	COMPANY NAME ADDRESS	CONTACT NAME PHONE / FAX	DIV. #	WORK DESCRIPTION

SECTION 01021 - CASH ALLOWANCES

PART 1.00 - GENERAL

1.01 Quality Assurance:

Quality assurance for items furnished under "Cash Allowances" is described in sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance established.

1.02 Definitions:

See Article 3.8 of General Conditions of the Contract for Construction, AIA Document A201, 1997 Edition.

1.03 Submittals:

Submittals pursuant to items furnished under "Cash Allowances" are described in sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance.

1.04 Product Handling:

Product handling of items furnished under "Cash Allowances" are described in sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance.

1.05 Job Conditions:

Job conditions affecting the installations of items furnished under "Cash Allowances" are described in sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance.

PART 2.00 - PRODUCTS

2.01 Materials:

Items required will be furnished under "Cash Allowances" as follows:

- A. Cash Allowances: The Contractor shall allow cash allowances for the purchase and installation of items as follows:
 - 1. Cash allowance of \$400.00 per new door with a door mark for purchase and installation of door hardware.
 - 2. Construction Plaque: \$1,000 for purchase and installation.
 - 3. Landscaping and Irrigation: \$15,000 for purchase and installation.
 - 4. Carpet – Purchase and delivery of carpet material. P34 S.Y. all installation cost in Base Bid.

- B. Contract Adjustment: The contract sum will be adjusted by change order based on the actual cost of the items purchased.

2.02 Fabrication:

Fabrication of items furnished under "Cash Allowances" is described in sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance.

PART 3.00 – EXECUTION

3.01 Inspection:

Inspection pursuant to commencing installation of items furnished under "Cash Allowances" is described in other sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance.

3.02 Installation:

Installation of items furnished under "Cash Allowances" is described in other sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance.

3.03 Field Quality Control:

Field quality control of the installation of items furnished under "Cash Allowances" is described in other sections of this project manual as referenced in Article 2.01 of this section for each specific cash allowance.

END OF SECTION

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SECTION 01101 - ALTERNATES / APPROVED MANUFACTURERS

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Work Included: To enable the owner to compare total costs where alternate materials and methods might be used. Alternates have been established as shown on the drawings or described hereinafter in this section.

- B. Related Work Described Elsewhere:
 - 1. Materials and methods to be used in the Base Bid and in the Alternates as shown on the drawings or described in pertinent sections of this project manual or hereinafter in this section.
 - 2. Method for stating the alternates is described in Section B - Proposal Form, of this project manual.

1.02 Definitions: Omitted

1.03 Submittals:

All Alternates described hereinafter are required to be reflected on the Proposal Form submitted by bidders.

1.04 Product Handling:

Alternates are additive and may be accepted by the owner as he or she may choose and in any sequence that he or she may choose.

1.05 Job Conditions:

Job conditions pursuant to the installation of the various products or materials of each alternate will be as described in pertinent other sections of this project manual and in accordance with the published specifications of the manufacturer of the product or material being installed as a part of each alternate.

PART 2.00 - PRODUCTS

2.01 Alternates:

A. Deductive Alternates: None

B. Additive Alternates:

Additive Alternate No. One.

To install revolving door as detailed on the drawings. Base Bid to leave existing doors and install interior air lock.

Additive Alternate No. Two.

To reroof the existing roof as detailed on the drawings. Base Bid to install new HVAC curbs and vent stacks in existing roof.

Additive Alternate No. Three.

To provide all carpet (\$34 S.Y. cash allowance for purchase and delivery) and install all carpet in spaces called for on the interior finish schedule

01101-1

PART 3.00 - EXECUTION

3.01 Inspection:

Prior to beginning installation of any alternates, the contractor shall examine the areas and conditions under which the work is to be carried out; notify the Architect in writing of conditions detrimental to the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Advance Coordination: Immediately after award of the contract, thoroughly and clearly advise all necessary personnel and suppliers as to the nature and extent of alternates selected by the owner. Use all means necessary to alert those personnel and suppliers involved as to all changes in the work caused by the owner's selection or rejection of alternates.
- B. Alternates: Selected alternates will be incorporated into the building with installation being in conformance with the drawings, pertinent other sections of this project manual and the published instructions of the manufacturers whose products are being installed as a part of each alternate.

3.03 Field Quality Control:

- A. General: Field quality control pursuant to the installation of the various products or materials of each alternate is described in pertinent other sections of this project manual and in accordance with the published specifications of the manufacturer of the products or materials being installed as a part of each alternate.
- B. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

PART 4.00 - APPROVED MANUFACTURERS:

4.01 In addition to the manufacturers and products named or described in the project manual, the manufacturers and products listed hereinafter are acceptable provided they meet the requirements of each respective section of the project manual as well as the requirements of the drawings. All coordination and compatibility with other work necessitated by proposed substitution will be accomplished in complete and proper fashion at no cost to the owner.

4.02 Section 04201 - Unit Masonry

Brick

- 1. Boral (to match existing)

Block (Splitt - Face)

- 1. Masonry Products
- 2. Williams Bros.
- 3. Nat'l. Concrete Masonry

Block (Regular)

- 1. Williams Bros.
- 2. Bickerstaff
- 3. Solite

Blocks (Acoustical)

- 1. Proudfoot
- 2. Williams Bros.
- 3. Acousta - Wal Association

01101-2

Mortar

1. Medusa
2. Blue Circle
3. Solomon Grind-Chem Serv.

Reinforcing

1. Dur-O-Wal
2. Ileckman Bldg. Prod.

4.03Section 05512 - Metal Spiral Stairs (Not Used)

4.04Section 05521 - Pipe and Tube Handrails and Railings

1. Julius Blum & Co.
2. T. G. Braun
3. Lawler Machine & Foundry Co., Inc.

4.05Section 05723 - Safety Nosings

1. Wooster Products
2. American Safety Tread
3. Armstrong Products, Inc.

4.06Section 05800 - Expansion Control Devices

1. Metalines
2. The C/X Group
3. MM Systems
4. Balco, Inc.

4.07Section 07114 - Below Grade Membrane Waterproofing

1. Sealtight "Melnar" by W.R. Meadows
2. Royston Waterproofing
3. America Colloid Co. (volclay)

4.08Section 07210 - Building Insulation

1. Owens Corning
2. CertainTeed
3. Manville

4.09Section 07535 - Reinforced Flexible Sheet Roofing System

1. Bondcote

4.10Section 07620 - Metal Flashing and Trim (To Match Existing)

1. AEP SPAM
2. ASC Pacific, Inc.
3. Berridge Manufacturing Co.
4. MM Systems

4.11 Section 07812 - Structural Skylights (not used)

4.12Section 07900 - Sealants

1. Dow Corning
2. G.E. Silicones
3. Sonneborn

4.13Section 08363 - Rolling Counter Doors (Not Used)

4.14 Section 08401 - Aluminum Entrance & Storefronts

1. Kawneer
2. PPG
3. YKK
4. EFCO Corp.

4.15 Section 08522 - Aluminum Windows

1. Kawneer
2. EFCO Corp.
3. Traco (min. 3-7/8" frame depth)
4. Alenco (min. 3-7/8" frame depth)

4.16 Section 08711 - Finish Hardware

Locksets & Cylinders

1. Schlage Lock Co.
2. Corbin
3. Yale
4. Best

Surface Closers

1. LCN Closers
2. Corbin
3. Norton

Push / Pull Plates

1. Triangle Brass
2. Quality
3. Ives

Silencers

1. Triangle Brass
2. Glyn-Johnson
3. Ives

Threshold

1. Zero International
2. National Guard
3. Hager
4. Pemko

Weather stripping

1. Zero International
2. National Guard
3. Pemko
4. Hager

Butts

1. Stanley
2. Hager Hinge Co.
3. H. Soss & Co.

Flush Bolts

1. Triangle Brass
2. Ives
3. Stanley

Surface Bolts

1. Triangle Brass
2. Ives
3. Stanley

Panic Devices

1. Von Duprin

Kick Plates

1. Quality
2. Bladwin
3. Ives

Stop / Bumpers / Holders

1. Triangle Brass
2. Glyn-Johnson
3. Ives

4.17 Section 09553 - Strip Wood Flooring System (not used)

4.18 Section 09660 - Resilient Tile Flooring

1. Armstrong (asbestos free)
2. Azrock (asbestos free)
3. Amitco Duravinyll Tile (asbestos free)

01101-4

4.19Section 09680 - Floor Carpeting

1. Interface
2. Milliken

4.20Section 10441 - Building Identification Letters

1. Andco
2. Leeds
3. Matthews

4.21Section 10500 - Metal Lockers (not used)

4.22Section 10800 - Rest Room, Shower Room, & Locker Room Accessories

1. Bradley
2. Bobrick
3. A & J

4.23Section 10900 - Wardrobe & Closet Specialties

1. Parker/Nutone, Inc.
2. Stanley
3. REI

4.24Section 11050 - Library Equipment (not used)

4.25Section 11181 - Dark Room Equipment (not used)

4.26Section 11400 - Commercial Food Service Equipment

4.27Section 11461 Unit Kitchen (not used)

4.28Section 11873 - Dock Bumpers (not used)

1. Dura - Lock
2. Pawling Corp.
3. Serco Corp.

END OF SECTION

01101 - 5*

SECTION 01301 - ADVANCE SUBMITTALS

PART 1.00 - GENERAL

1.01 Quality Assurance:

In order to insure that the minimum acceptable quality of workmanship and materials is adhered to and that all specified products are furnished and installed in accordance with the contract documents, the requirements of this section shall be strictly followed.

1.02 Definitions:

- A. Shop Drawings: See Article 3.12.1 of General Conditions of the Contract for Construction, AIA Document A201, 1997 Edition.
- B. Product Data: See Article 3.12.2 of General Conditions of the Contract for Construction, AIA Document A201, 1997 Edition.
- C. Samples: See Article 3.12.3 of General Conditions of the Contract for Construction, AIA Document A201, 1997 Edition.
- D. Sepia Reproducible: A transparent copy of an original drawing, capable of being reproduced, maximum size 24 " x 36".

1.03 Submittals:

Make all submittals to the Architect in strict accordance with the provisions of this section.

1.04 Product Handling:

The Contractor shall be responsible for obtaining and distributing required submittals until final review, with or without exceptions, has been obtained from the Architect, or as the case may be, the Architect's consultant.

1.05 Job Conditions:

- A. Timing of Submittals:
 - 1. Make submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
 - 2. In scheduling, allow at least twenty full working days for review following Architect's receipt of submittal.
- B. Delays: Costs of delays occasioned by tardiness of submittals may be back-charged as necessary and shall not be born by the Owner.

PART 2.00 - PRODUCTS

2.01 Drawings:

- A. Sheet Format: Drawings shall be prepared in accordance with the sheet format shown in Illustration SF-1 of this section.
- B. Type of Print Required: Sepia reproducible.

2.02 Manufacturers' Printed or Published Material:

01301 – 1

Printed or Published material shall be manufacturers' standard.

2.03 Samples:

Unless specifically noted otherwise in pertinent other sections of this project manual, all samples shall be the actual item proposed to be furnished and installed in the work.

PART 3.00 - EXECUTION

3.01 Contractor's Review:

The Contractor shall review all submittals and affix his or her signature and stamp of approval to same prior to submitting same to Architect.

- A. Items not approved by the Contractor shall not be submitted to the Architect and items submitted which do not bear the Contractor's stamp of approval will not be reviewed by the Architect.
- B. The Contractor's approval stamp must represent that the item(s) comply (complies) with the requirements of this project manual and has (have) been checked and coordinated with all parts of the work. Suggested wording of Contractor's approval stamp is shown in Illustration SF-3 of this section. (See Article 3.03 of this section).

3.02 Identification of Submittals:

Completely identify each submittal and resubmittal by showing at least the following:

- A. Name and address of submitter, plus name and telephone number of the individual who may be contacted for further information.
- B. Name of project and Architect as they appear on the cover of this project manual.
- C. Sheet number and project manual section number to which the submittal applies.
- D. Whether this is an original submittal or resubmittal.

3.03 Coordination of Submittal:

Prior to submittal for Architect's review, use all means necessary to fully coordinate all material, including but not limited to the following procedures:

- A. Determine and verify all field dimensions, quantities and conditions, materials, catalog numbers, and similar data.
- B. Coordinate as required with all trades and with all public agencies involved.
- C. Secure all necessary approvals from public agencies and others and signify by stamp, or other means, that they have been secured.
- D. Clearly indicate all deviations from the contract documents.

3.04 Grouping of Submittals:

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Unless otherwise specifically permitted by the Architect, make all submittals in groups containing all associated items; the Architect may reject partial submittals as not complying with the provisions of the contract documents.

3.05 Submitting Drawings:

- A. Scale Required: Unless otherwise specifically directed by the Architect, make all drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connecting to the work.
- B. Number and Type of Prints Required:
 - 1. Submit on sepia reproducible of each sheet to be reviewed and 2 (two) blue line prints, maximum size 24" x 36" sheets.
 - 2. After the Architect has reviewed the submittal, it will be returned to the Contractor with the Architect's appropriate stamp affixed thereto, or as the case may be, the appropriate stamp of the Architect's consultant.
- C. Job Use Prints: After final review has been obtained from the Architect, or as the case may be, the Architect's consultant, and all corrections have been made, furnish the Architect with three "job use prints", in blue or black line on white background.

3.06 Submitting Manufacturer's Printed or Published Material:

Manufacturer's printed and published material which can not be reproduced on sepia reproduces shall be submitted in sufficient number as to allow the Architect to retain three copies of submitted material.

3.07 Submitting Samples:

- A. Number Required: Samples shall be submitted in sufficient number as to allow the Architect to retain two samples of each item submitted.
- B. Ownership:
 - 1. Unless specifically noted otherwise in pertinent other sections of this project manual, ownership of the submitted samples remains with the supplier of the same and may be reclaimed by him within thirty-five days after completion of the project.
 - 2. If the samples are not reclaimed by their supplier within thirty-five days after completion of the project, the Architect will dispose of said samples.

3.08 Submitting Color and Pattern Samples:

- A. General: Whenever a choice of color and/or pattern is available in a specified product and where a precise color and/or pattern is not specifically described for a product in pertinent other sections of this project manual, submit accurate color samples and/or pattern samples in sufficient number as to allow the Architect to retain two samples of each item submitted.
- B. Comparative Analysis: Unless all available colors and/or patterns have identical costs and wearing capabilities and are identically suited for the installation, completely describe the costs, capabilities and limitations of each color and/or pattern.

3.09 Schedule of required Submittals:

As an aid to and upon written request by the Contractor, the Architect will prepare a "Schedule of Required Submittals" and furnish such schedules to the Contractor.

END OF SECTION

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SECTION 01501 - TEMPORARY FACILITIES AND CONTROLS

PART 1.00 - GENERAL

1.01 Quality Assurance:

Temporary facilities and controls shall comply with laws, codes and regulations of the place where the project is located.

1.02 Definitions: Omitted

1.03 Submittals: Omitted

1.04 Product Handling:

- A. Use all means necessary to maintain temporary facilities and controls in proper and safe condition throughout the progress of the work.
- B. Replacements. In the event of loss or damage, immediately make all replacements and repairs necessary to the approval of the Architect and at no additional cost to the Owner.

1.05 Job Conditions:

Make all required connections to existing utility systems necessary to provide temporary utility services described hereinafter in accordance with provisions of this project manual.

PART 2.00 - PRODUCTS

2.01 Temporary Facilities:

A. Field Offices and Sheds:

- 1. Furnish, install and maintain throughout the work in this project, a field office building adequate in size and accommodation for all of Contractor's offices, superintendent's office, supply and tool room.
- 2. The field office shall be available to the Architect and /or his representative, the Owner and/or his representative and cooperating agencies throughout the work in this project.
- 3. The Contractor and his subcontractors may maintain such other offices and storage facilities as may be necessary to the proper conduct of the work in this project.

- B. Toilet Facilities: Furnish, install and maintain in a clean and sanitary condition throughout the work in this project, adequate enclosed toilet and washing facilities for use by persons employed on this project.

2.02 Temporary Enclosures and Controls:

Furnish, install and maintain, throughout the work in this project, all required scaffolds, tarpaulins, barricades, canopies, warning signs, steps, bridges, platforms and other temporary construction necessary for the proper and safe execution of the work in this project in compliance with all pertinent safety codes and other regulations.

2.03 Temporary Utilities:

A. Water and Sewer:

1. Furnish, install and maintain all necessary temporary water lines, sewer lines and service throughout the work in this project.
2. Cost of furnishing, installing and maintaining temporary water and sewer lines and services shall be paid for by the Contractor.

B. Gas:

1. Furnish, install and maintain all necessary temporary gas service throughout the work of this project.
2. Cost of furnishing, installing and maintaining temporary gas service shall be paid for by the Contractor.

C. Electricity:

1. Furnish, install and maintain all necessary temporary electrical lines and service throughout the work of this project.
2. Furnish and install area distribution boxes so located that individual trades may use 100 feet maximum length extension cords to obtain adequate power and artificial lighting at all points where required for the work, for inspection and for safety.
3. Cost of furnishing, installing and maintaining temporary electrical services shall be paid for by the Contractor.

D. Telephone and Fax (on separate lines):

1. Make all necessary arrangements and pay all costs for installation and operation of telephone service and fax service to the Contractor's field office throughout the work in this project.
2. This telephone and fax shall be made available for use by the Architect or his representative and the Owner or his representative.
3. The Contractor and his or her subcontractors may have other telephones as may be necessary to the proper conduct of the work of this project, making all arrangements for and paying all costs for said additional telephones and service.

E. Heat:

1. Provide, maintain and pay all costs for, throughout the work of this project, temporary heat as necessary to protect all work and materials from damage due to cold or dampness.
2. Fuel, equipment and heating shall not constitute a non-insurable fire hazard and shall be approved by the Architect prior to use.

2.04 Fencing of Construction Area: **Provide a 6' high temporary chain link fence around construction site.**

2.05 Haul Roads: Omitted

PART 3.00 - EXECUTION

3.01 Inspection: Omitted

3.02 Installation:

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Install (locate) field offices, storage sheds, toilet facilities and all other temporary facilities as directed or approved by the Architect.

3.03 Field Quality Control:

- A. Maintenance: Maintain all temporary facilities and controls and pay all costs related thereto, in a safe, functioning and sanitary condition throughout work in this project.
- B. Removal:
 - 1. Field offices, sheds, toilet facilities, temporary enclosures and controls shall be removed only after approval of their removal by the Architect.
 - 2. Temporary utilities may be removed as soon as permanent utility services are provided and are properly working; cost for maintaining permanent utility service shall be paid by the Contractor until date as determined at time of issuing of the Architect's Certificate of Substantial Completion.

END OF SECTION

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SECTION 01502 - PROJECT RECORD DOCUMENTS

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Qualifications of Workmen: The contractor shall designate one workman in his employ who is thoroughly trained in maintaining project records and who is completely familiar with the requirements of this work, who shall maintain all project record documents and who shall record all pertinent changes.
- B. Identification of Documents: All project record documents shall be clearly marked "Project Record Copy", not used for construction purposes and available to the Architect and/or his representative at all times.

1.02 Definitions: Omitted

1.03 Submittals:

At least ten days prior to the date of Final Inspection, and as a condition of acceptance of the work, submit all project record documents to the Architect.

1.04 Product Handling:

- A. Protection: Use all means necessary to protect the project record documents from damage.
- B. Replacements: In the event of damage, the Architect will replace copies of the documents and charge the Contractor for the replacement cost; however, it shall be the Contractor's responsibility to transfer recorded information from the damage documents to the replacement documents.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Project Record Documents:

Project record documents include, but are not necessarily limited to:

- A. Drawings.
- B. Project Manual.
- C. Addenda.
- D. Approved Shop Drawings.
- E. Change Orders.
- F. Field Orders.
- G. Construction drawings and other documents furnished to the Contractor by the Architect.
- H. Approved documents submitted by the Contractor in compliance with pertinent other sections of this project manual.
- I. Other Contract Modifications.

PART 3.00 - EXECUTION

3.01 Inspection: Omitted

3.02 Marking Project Record Documents:

- A. General: Mark the most appropriate document within 24 hours of receipt of information, to show:
 - 1. Significant changes made during construction.

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2. Significant details not shown in the original Contract Documents.
- B. Information to be Recorded: The information recorded on the documents shall include, but not be limited to:
1. Location of all underground utilities and appurtenances referenced to permanent surface improvements.
 2. Location of all internal utilities and appurtenances concealed in the building structures, referenced to visible and accessible features of the structures.
- C. Method of Marking and Recording:
1. Using colored pencils for graphic work, conform to the following color code:
 - a. Red for architectural work.
 - b. Brown for structural work.
 - c. Green for mechanical work.
 - d. Yellow for electrical work.
 2. Use a red pen for all written work.
- 3.03 Field Quality Control:
- A. General: Project record documents shall be kept current and no work shall be concealed until all required information has been recorded.
- B. Accuracy of Entries: Use all means necessary, including, but not necessarily limited to, the proper tools for measurement, to determine the exact locations of installed items.
- C. Inspection: As a prerequisite to the Architect's approval of request for progress payments and request for final payment, the Architect will, by inspection of the project record documents, determine if same are current; progress payments nor final payment will not be made until the Architect has approved the current status of the project record documents.

END OF SECTION

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SECTION 02110 - DEMOLITION

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. **Qualifications of Workmen:** Provide at least one person who shall be present at all times during demolition operations and who shall be thoroughly familiar with the requirements of this portion of the work and the methods by which the same is accomplished.
- B. **Codes and Standards:** In addition to complying with all pertinent codes and regulations, comply with the requirements of those insurance carriers providing coverage for this work.
- C. **Contractor's Responsibility:** It shall be the Contractor's responsibility to protect all existing construction designated to remain and to provide for the public safety during all demolition operations.

1.02 Definitions: Omitted

1.03 Submittals: Omitted

1.04 Product Handling:

- A. **Damage to Existing Construction:** In the event of damage to any construction and/or equipment not scheduled to be demolished or removed, the Contractor shall immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner. The Contractor is to provide all necessary barricades, coverings, floor protection, wall protection, door and frame protection to prevent damage to any construction that is to remain.

1.05 Job Conditions:

- A. **Dust Control:** Use all means necessary to prevent the spread of dust during the performance of the work of this section.
- B. **Burning:** On-site burning will not be permitted.
- C. **Hazardous Materials:** Should, during the course of demolition, any suspect hazardous materials be encountered, stop work in suspect area and immediately notify the Architect. See Section F. Items 19 & 20 for additional information.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. **Barricades:** Use only new and solid lumber and plywood of utility grade or better for construction of all temporary barricades.
- B. **Other Materials:** All other material, not specifically described but required for the proper execution of the work of this section shall be selected by the Contractor, subject to approval by the Architect.

PART 3.00 - EXECUTION

3.01 Inspection:

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The Contractor shall examine the areas and conditions under which the demolition operations are to be carried out; notify the Architect in writing of conditions detrimental to the completion of the demolition; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preparation:

1. Notification: Notify the Architect at least two full working days prior to commencing the work of this section.
2. Site Inspection: Prior to all work of this section, carefully inspect the entire site and all objects designated to be removed and to be preserved.
3. Clarification: The drawings show generally all existing construction that is to be removed; however,
 - a. Remove existing ceilings as shown on the drawings.
 - b. Removal of various mechanical and electrical items as shown.
 - c. Removal of existing walls, doors, windows, frames, millwork, concrete slabs and floor finishes as shown. **Do not remove any structural columns in walls.**
 - d. Before commencing the work of this section, verify with the Architect all construction that is to be removed.
4. Scheduling:
 - a. Schedule all work in a careful manner with all necessary consideration for neighbors and the public.
 - b. Avoid interference with the use of and passage to and from adjacent buildings and facilities.

3.03 Field Quality Control:

- A. Temporary Barricade: Construct temporary barricades to protect existing construction and the public from damage or harm caused by the work of this section; barricades shall be constructed in accordance with all pertinent codes and regulations.
- B. Disconnection of Utilities: Before starting site operations, disconnect or arrange for disconnection of all utility services designated to be removed, performing all such work in accordance with the requirements of the utility company or agency involved.
- C. Protection of Utilities: Preserve in operating condition all active utilities traversing the site. all active utilities designated to remain, and make all necessary temporary connections to maintain all utilities to existing building at all times.
- D. Demolition: Demolish existing construction designated to be removed on the drawings or as determined under Article 3.02, A, 3, in their entirety.
- E. Disposal of Debris: Remove from the site all debris resulting from the demolition operations; burning of debris on site will not be permitted; place of disposal for demolished items shall be the Contractor's responsibility.

END OF SECTION

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SECTION 02201 - EXCAVATING, FILLING AND GRADING

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Source Quality Control:

1. Testing Laboratory: An independent testing laboratory will be selected by the Contractor, subject to Owner's approval, to provide testing services described hereinafter.

2. Services:

a. The independent testing will provide a registered soils engineer who will, in conjunction with the testing laboratory, test and evaluate all fill material proposed to be used in this project and approve or disapprove its use in the work.

b. No fill material shall be used until it is approved by the registered soil engineer and the independent testing laboratory.

ALL COSTS FOR TESTING SERVICES SHALL BE PAID FOR BY THE CONTRACTOR.

1.02 Definitions:

A. Earth: Material that can be removed by power shovel.

B. Rock: Stone or hard shale in original ledge, boulders over 1/2 cubic yard in volume, that cannot be removed by normal job equipment (power shovel 1/2 yard capacity, scoops, bulldozer) without the use of explosives or drills.

C. Finish Grade: The required final grade elevations and contours as shown on the drawings.

1.03 Submittals:

A. Proof of Compliance: Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Test Reports: The independent testing laboratory shall furnish five (5) copies of all test reports to the Contractor within 24 hours after completion of the tests; the Contractor will furnish the Architect two (2) copies of the independent testing laboratory's report within one (1) working day of receipt of same by Contractor from the testing laboratory.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Insufficient Fill Material: Should the amount of suitable fill available at the project site be insufficient, provide materials as hereinafter described in sufficient quantity to complete the work.

- B. Excess Fill Material: Should the amount of suitable fill available at the project site be in excess of the amount of fill material required to complete the work it shall be stockpiled on the site in the area marked on the drawings "disposal area for excess fill material free of organic material"; unsuitable excess fill shall be disposed of off the site by the Contractor; place of disposal is Contractor's responsibility.
- C. Dust: Thoroughly moisten all surfaces to prevent dust being a nuisance to the public, neighbors and concurrent performance of other work on the project site.
- D. Rock: Rock as defined hereinbefore is not anticipated, however, provision for its removal, if encountered, and compensation for same shall be determined at that time upon authorization of the Owner.

PART 2.00 - MATERIALS

2.01 Materials:

A. On-Site Fill Materials:

- 1. Material existing at the site may be used for fill and backfill only if approved by the registered soils engineer for such use and
- 2. be free of roots, organic matter and other deleterious substance and
- 3. shall contain no rock or stone larger than 2 inches in its greatest dimension.

B. Imported Fill Material: All imported fill material, except porous fill, shall be inorganic material, clean, unfrozen, free from substance subject to rot, corrosion, or termite infestation and with no less than 30 percent by weight finer than No. 200 U.S. Standard Sieve, and shall conform to the following properties: PROPERTIES OF IMPORTED FILL MATERIAL

Liquid Limit, lw: 30 maximum
 Plasticity Index, lw: 20 maximum
 Dry Unit Weight 8: 100 pcf minimum

C. Porous Fill: to be manufactured sand or well graded crusher run.

D. Foundation Drain Tile: Foundation drain tile shall be standard class clay drain tile, meeting requirements of ASTM C4-62 and shall be of the sizes indicated on the drawings.

E. Gravel for Foundation Drainage: Gravel used for bedding and filling around foundation drain tile shall be graded as follows:

- 1. 2" diameter for bedding and for bottom 1/3 of excavation
- 2. 1-1/2" to 3/4" for center 1/3 of excavation
- 3. 1/2" to 1/4 inch for top 1/3 of excavation

F. Trench and Structural Backfill:

- 1. On Site Fill Material: All on-site fill material used for trench and structural backfill shall meet the requirements of Article 2.01 above.
- 2. Imported Cohesionless Material: All imported cohesionless material used for trench and structural backfill shall be free from organic substance and other deleterious matter, and shall be in particle size grading within the following limits:

Passing the number four sieve: 100%
Passing the number 200 sieve: 3% maximum

PART 3.00 - EXECUTION

3.01 Inspection:

- A. Familiarization: Prior to commencing work of this section, the Contractor shall familiarize himself or herself with the site, the site conditions and all portions of the work described hereinafter; he shall notify the Architect in writing of any conditions detrimental to commencing and completing the work of this section and he or she shall do no work until unsatisfactory conditions have been corrected.

- B. Notification By and Responsibilities of Contractor:
 - 1. The Contractor shall be responsible for the following:
 - a. Notify the Architect and independent testing laboratory 24 hours prior to completion of stripping operations.

 - b. Notify Architect 24 hours prior to beginning excavation for construction of structural fill.

 - c. Notify Architect 24 hours in advance of when density tests will be required.

 - d. Notify Architect and independent testing laboratory 24 hours prior to commencing excavation for building.

 - e. Notify Architect and independent testing laboratory immediately after base for structural fill has been exposed.

 - f. Notify Architect and independent testing laboratory 24 hours prior to beginning excavation for footings.

 - 2. In addition to the above, the Contractor shall establish and maintain reference points to provide horizontal locations and elevations of test location.

- C. Site Preparation: Clearing, grubbing, topsoil removal and rough grading operations are to be done to minimize disruption to normal activities.

- D. Inspection of Base for Structural Fill:
 - 1. The exposed base for the structural fill will be inspected by the registered soil engineer to verify suitability of soil.

 - 2. The Contractor shall locate soft zones by proof rolling areas within lines 5' outside of foundation wall and areas to be occupied paving (i.e. walks, drives, parking areas, etc.) with a heavily loaded dump truck, minimum of 10 tons gross weight or similar pneumatically tired vehicle normal to excavation work.

 - 3. Any soft zones detected shall be eliminated as recommended by the registered soil engineer by either:
 - a. excavating and backfilling (should this be the method selected then the Contract Sum will be adjusted by Change Order in accordance with Article 7 of the General Conditions of the Contract for Construction, AIA Document A201, 1997 Edition.

- b. continued rolling.

3.02 Installation:

A. General:

1. Backfilling Prior to Approvals:

- a. Do not allow or cause any of the work performing or installed to be covered up or enclosed by work of this section prior to all required inspections, test and approvals.
- b. Should any of the work be so enclosed or covered up before it has been approved, uncover all such work at no additional cost to the Owner.
- c. After the work has been completely tested, inspected and approved, make all repairs and replacements necessary to restore the work to the condition in which it was found at the time of uncovering, all at no cost to the Owner.

2. Finish Elevations and Lines:

- a. For setting and establishing finish elevations and lines, secure the services of a registered civil engineer acceptable to the Architect.
- b. Carefully preserve all data and all monuments set by the civil engineer and, if displaced or lost, immediately replace to the approval of the Architect and at no additional cost to the Owner. At the request of the Architect, the Contractor will secure the services of a surveyor or civil engineer to verify all building corners, invert elevations, paving elevations and finished floor elevations. This will be at no cost to the Owner and the Architect will be supplied with a copy of the survey.

B. Excavating:

1. Depressions Resulting from Removal of Obstructions: Where depressions result from or have resulted from the removal of surface or subsurface obstructions, open the depression to equipment working width and remove all debris and soft material as directed by the Architect.

2. Other Areas:

- a. Excavate to grades shown on the drawings.
- b. Where excavation grades are not shown on the drawings, excavate as required to accommodate the installation.

3. Overexcavation: Backfill and compact all overexcavated areas as specified for fill below and at no additional cost to the Owner.

C. Preparation of Subgrade:

- 1. Scarifying: Scarifying the exposed surface to a minimum depth of 6", thoroughly moisture- condition, and compact to the requirements and test as specified for fill hereinafter.
- 2. Leveling: Remove all ruts, hummocks and other uneven surfaces by surface grading prior to placement of fill.

D. Excess Water Control:

- 1. Unfavorable Weather:

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- a. Do not place, spread, or roll any fill material during unfavorable weather conditions.
 - b. Do not resume operations until moisture content and fill density are satisfactory to the soils engineer.
 - 2. Flooding: Provide berms or channels to prevent flooding of subgrade; promptly remove all water collecting in depressions.
 - 3. Softened Subgrade: Where soil has been softened or eroded by flooding or placement during unfavorable weather, remove all damaged areas and recompact as specified for fill and compaction below.
 - 4. Dewatering:
 - a. Provide and maintain at all times during construction, ample means and devices with which to promptly remove and dispose of all water from every source entering the excavation or other parts of the work.
 - b. Dewater by means which will ensure dry excavations and the preservation of the final lines and grades of bottom of excavations.
- E. Installation of Foundation Drain Tile:
- 1. Locations: Install foundation drain tile in locations shown on the drawings, adequately graded for drainage and bedded in the specified gravel.
 - 2. Joints: Leave all joints in drain tile open 1/4" and wrapped with 4" wide strips of burlap.
 - 3. Filling: After drain tile has been installed, fill the excavations with the specified gravel to within two (2) feet of the specified finish grade.
- F. Fill and Compaction:
- 1. Filling: After subgrade compaction has been confirmed by the soils engineer, spread approved fill material in layers not exceeding 6" in uncompacted thickness.
 - 2. Moisture - Conditioning: Water or aerate the fill material as necessary and thoroughly mix to obtain a moisture content which will permit proper compaction.
 - 3. Compaction, General: Compact each soil layer to at least the specified minimum degree; repeat compaction process until plan grade is attained.
 - 4. Compaction Requirements:
 - a. Structural Fill: Densify all structural fill, including recompacted existing fill and backfill, to a minimum degree of compaction of 95%, Standard Proctor, ASTM D-698, except that floor slabs compaction shall be increased to 98% for upper 18".
 - b. Pavement Areas: Compact fill pavement areas to a minimum degree of compaction of 95%, Standard Proctor, ASTM D-698 and increase to 98% for the upper 24".
 - c. Trenches in Building and Pavement Areas:
 - 1. Building and pavement areas are defined, for the purpose of this

paragraph, as extending a minimum of 5' beyond the building and/or pavement.

2. Compact backfill material to a minimum degree of compaction of 100%, Standard Proctor, ASTM D-698.
 3. Compact backfill in pavement areas to a minimum degree of compaction of 100%, Standard Proctor, ASTM D-698.
 4. Densify cohesionless backfill material to a minimum relative density of 70% as determined by the ASTM test designated as D-2049-69.
 5. Compact materials of questionable cohesion to either a minimum degree of compaction of 90%, Standard Proctor, ASTM D-698 or a minimum relative density of 70%, whichever results in the greater dry density.
5. Jetting: Unless specifically approved in writing by the Architect, jetting will not be permitted except for densification of cohesionless material.

G. Grading:

1. General: Except as otherwise directed by the Architect, perform all rough and finish grading required to attain the elevations indicated on the drawings.
2. Grading Tolerances:
 - a. Rough Grade: Building and parking areas: plus or minus 0.1 foot
 - b. Finish Grade:
 1. Porous fill under concrete slabs: plus or minus 0.04 foot
 2. Parking areas: (see Section 02610)
 3. All other areas: plus or minus 0.04 foot
3. Treatment After Completion of Grading:
 - a. After grading is completed and the Architect has finished his inspection, permit no further excavation, filling or grading except with the approval of and inspection by the Architect.
 - b. Use all means necessary to prevent the erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

H. Excavating for Footing:

1. Preparation:
 - a. To minimize differential settlement, it is essential that earth surfaces upon which footings will be placed, be compacted in accordance with the compaction requirements established in this section.
 - b. Verify that all compaction is complete and approved prior to excavating for footings.
2. Excavating:
 - a. Excavate to the established lines and grades.
 - b. Cut off bottom of trenches level and remove all loose soil.
 - c. Where soft spots are encountered, remove all defective material and replace with lean concrete.

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I. Trenching:

1. General:

- a. Perform all trenching required for the installation of items where the trenching is not specifically described in other sections of this project manual.
- b. Where elevations are not shown on the drawings, trench to sufficient depth to give a minimum of 18" of fill above the top of the pipe measured from the adjacent finished grade.

2. Correction of Faulty Grades: Where trench excavation is advertently carried below proper elevations, backfill with materials approved by the Architect and then compact to provide a firm and unyielding subgrade or foundation to the approval of the Architect and at no additional cost to the Owner.

3. Trench Bracing:

- a. Brace, sheet and support trench walls in such a manner that they will be safe and that the ground along side the excavation will not slide or settle. Strict accordance to all applicable federal, state, and local ordinances and laws is required.

ALL WORK TO COMPLY WITH OSHA REGULATION NO. 29 CFR 1926.

- b. In the event of damage to such improvements, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

- c. Arrange all bracing, sheeting and shoring so as not to place stress on any portion of the completed work until the general construction thereof has proceeded far enough to provide sufficient strength.

4. Removal of Trench Bracing: Exercise care in the drawing and removal of sheeting, shoring, bracing and timbering to prevent collapse or caving of the excavation faces being supported.

5. Grading and Stockpiling Trenched Material:

- a. Control the stockpiling of trenched material in a manner to prevent water running into the excavations.
- b. Do not obstruct surface drainage but provide means whereby storm and waste waters are diverted into existing gutters, other surface drains or temporary drains.

J. Foundation for Pipes:

1. General: Grade the trench bottoms to provide a smooth, firm and stable foundation free of rock points throughout the length of the pipe.
2. Foundation Material: Place a minimum of 6" of the specified cohesionless material in the bottom of the trench.
3. Subsurface Conditions:
 - a. In areas where soft, unstable materials are encountered at the surface upon which fill material is to be placed, remove the unstable material and replace it with material approved by the Architect; make sufficient depth to develop a firm foundation for item being installed.

- b. If the need for such over-excavation has been occasioned by an act or failure to act on the part of the Contractor, make the over-excavation and replacement at no additional cost to the Owner.

4. Shaping:

- a. At each joint in pipe, recess the bottom of the trench as required into the firm foundation in such a manner as to relieve the bell of the pipe of all load and to ensure and to ensure continuous bearing of the pipe barrel on the firm foundation.
- b. Accurately shape all pipe sub-grade and fit the bottom of the trench to the pipe shape; use a drag template shaped to conform to the outer surface of the pipe if other methods do not produce satisfactory results.

K. Bedding for Pipes:

- 1. General: Place the specified fill material in the trench, simultaneously on each side of the pipe for the full width of the trench, to a maximum depth of 3' and a minimum depth of 1' above the outside diameter of the pipe barrel.
- 2. Densification:
 - a. Densify the bedding material after placing by thoroughly saturating with water and vibrating with jetting equipment and a concrete vibrator stringer at maximum intervals of 2' along both sides of the pipe.
 - b. Take special care to provide firm bedding support on the underside of the pipe and fittings for the full length of the pipe.
- 3. Alternate Bedding: Other bedding procedures and materials may be used if prior written approval has been obtained from the Architect.

L. Backfill for Pipes:

- 1. Using On-Site Materials:
 - a. After the pipe has been thoroughly bedded and covered, spread the on-site material in uniform lifts of not more than 8" in un-compacted thickness, and then compact and test as specified for fill in this section.
 - b. Repeat the spreading and compacting procedure until adjacent grade level is attained.
- 2. Using Imported Cohesionless Materials: After the pipe has been thoroughly bedded and covered, fill the remaining portion of the trench with the specified fill material and density as specified for in this section.

M. Disposition of Utilities:

- 1. Active Utilities:
 - a. All active utilities designated to remain shall be protected from damage.
 - b. Should active utilities be encountered which are not shown on the drawings, they shall be protected, removed or relocated in accordance with written instructions from the Architect, and the contract price adjusted accordingly by Change Order.

2. Inactive or Abandoned Utilities:
 - a. All inactive or abandoned utilities shall be removed, plugged or capped as indicated on the drawings.
 - b. Should inactive or abandoned utilities be encountered which are not shown on the drawings, they shall be removed, plugged or capped in accordance with written instructions from the Architect, and the Contract Sum adjusted accordingly, by Change Order.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.
- B. Testing Laboratory: The independent testing laboratory employed under Article 1.01, A, 1. shall make tests as described hereinafter to insure compaction commensurate with the requirements of this section.
- C. Testing:
 1. Field density checks shall be made at locations and depth as directed by the registered soil engineer.
 2. A minimum of two field density test for each one foot of lift for each 2000 square feet of area shall be made during filling and back-filling operations.
 3. Test reports will be furnished as described in Article 1.03 of this section.
 4. All costs for testing shall be paid for by the Contractor.
- D. Cleaning Up: Upon completion of this portion of the work, immediately remove all debris and excess earth materials from the site; place of disposal shall be Contractor's responsibility.

END OF SECTION

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SECTION 02241 - SEDIMENT AND EROSION CONTROL

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Qualifications of Grass Installer: The installer of the grass shall have been successfully engaged in the business of landscaping for a period of not less than five years immediately prior to commencing any grassing operations of this section.

- B. Qualifications of Sediment and Erosion Control Workmen: Provide one person who shall be present and who shall supervise all sediment and erosion control operations; this individual shall be familiar with the requirements of this section and industry standards described hereinafter.

- C. Industry Standards: The following are made a part of this section:
 1. Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Georgia, 1977 Edition, except as concerns payment:
 - a. Section 161 - Water Pollution (Soil Erosion)
 - b. Section 163 - Miscellaneous Erosion Control Items
 - c. Section 164 - Straw Mulch Stabilization

It is the Contractor's responsibility to obtain a copy of these specifications which are available from Department of Transportation, State of Georgia, No.2 Capital Square, Atlanta, Georgia for a nominal charge.

 2. Manual for Erosion and Sediment Control in Georgia, State Soil & Water Conservation Committee of Georgia. It is the Contractor's responsibility to obtain a copy of this manual which is available for a nominal charge from the State Soil & Water Conservation Committee of Georgia, 745 Price Avenue, Athens, Georgia.

- D. Reference Specification: The following sections of this project manual shall form a part of this section to the extent of the reference thereto:
 1. Section 02201 - Excavating, Filling and Grading
 2. Section 02501 - Site Drainage
 3. Section 03101 - Concrete Formwork
 4. Section 03200 - Concrete Reinforcement
 5. Section 03210 - Steel Bar & Welded Wire Fabric Reinforcement
 6. Section 03300 - Cast-In-Place Concrete
 7. Section 03350 - Concrete Finishes

1.02 Definitions: Omitted

1.03 Submittals:

- A. General: Submittals as described in the above referenced sections of this project manual shall apply to this section.

- B. Proof of Compliance: Prior to commencing any work of this section, submit in triplicate to the Architect:
 1. a certified statement of qualifications and
 2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

1.04 Product Handling:

- A. Protection: Protect the materials of this section from damage during delivery, storage and after installation.
- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

- A. Temperature: Place no concrete and erect no masonry when the ambient temperature is below 40 degrees Fahrenheit.
- B. Insufficient Top Soil: Should the amount of top soil stockpiled on the site be insufficient, provide top soil as hereinafter described in sufficient quantity to achieve required top soil depth.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Concrete Form Materials: All concrete form materials and related items required in this portion of the work will be in accordance with Section 03101 of this project manual.
- B. Concrete Reinforcement: All concrete reinforcement and related items required in this portion of the work will be in accordance with Section 03210 of this project manual.
- C. Cast-In-Place Concrete Materials: All cast-in-place concrete materials and related items required in this portion of the work will be in accordance with Section 03301 of this project manual.
- D. Top Soil:
 - 1. Top soil shall be fertile, friable, natural soil mixture, reasonably free of subsoil, debris and material harmful to lawn growth.
 - 2. Top soil stockpiled on the site shall be redistributed to the extent available; additional top soil as required in Article 1.05, B shall be added to achieve required top soil depth.
- E. Riprap: Riprap shall be irregularly broken and random sized quarry rock weighing not less than 25 lbs. nor more than 150 lbs. with weight range average of 75 percent of stones being 50 to 150 lbs. each.
- F. Hay Bales: Hay bales shall be standard, rectangular sized, securely tied with hay bale wire (rope or twine not acceptable); a min. of two wires per bale.
- G. Grass Seeds:
 - 1. Temporary Grassing: Seeds for temporary grassing shall be fresh, clean, new crop seed as follows:
 - a. Rye
 - b. Sudangrass
 - c. Annual Lespedeza
 - 2. Permanent Grassing: Seeds for permanent grassing shall be fresh, clean, new crop, hulled Common Bermuda Grass, 98% purity with 90% germination.

H. Permanent Sod: Permanent sod shall match existing grass.

I. Fertilizers:

1. Temporary Grasses: Fertilizer for temporary grasses shall be commercial fertilizer of the following analysis:
 - a. Nitrogen, 10%
 - b. Phosphorus, 10%
 - c. Potassium, 10%
2. Permanent Grasses: Fertilizer for permanent grasses shall be a commercial fertilizer.

J. Lime: Agricultural lime shall meet the requirements of Georgia Department of Agriculture.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the work of this section is to be performed; notify the Architect in writing of conditions detrimental to the installation and the completion of the work: do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. General:

1. Storm sewers and appurtenances and erosion and sediment control structures are to be installed as detailed on the Drawings.

B. Permanent Grassing:

1. General:

- a. As soon as conditions permit, replace all temporary grasses with permanent grasses.
- b. Disturbed or denuded areas shall be seeded except,
- c. Water ways shall be sodded.

2. Preparation:

- a. Areas to be seeded shall be plowed to a depth of 6", depressions filled, sticks and rubbish removed.
- b. Areas to be sodded shall be loosened to a minimum depth of 12", producing a smooth, uniform loose appearing surface; surface shall be free from all hollows and other inequalities.
- c. Areas to be seeded shall have top soil placed evenly in 2" depth, with raked surface to provide a smooth grassed area.
- d. Areas to be seeded shall be finished graded to grades indicated on the drawings.
- e. Areas to be sodded shall be finished graded to allow for the sod thickness.
- f. Areas shall be thoroughly watered.

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3. Seeding:
 - a. Apply seed at rate shown on the drawings and apply fertilizers at rates shown thereon.
 - b. Thoroughly water after seeding and fertilization is complete.
4. Sodding:
 - a. Lay sod block with no joint greater than 1/4" and fill with top soil.
 - b. Fertilize at rates indicated on the drawings.
 - c. After sodding and fertilization is complete thoroughly water.

C. Construction Maintenance Program:

1. Erosion and Sediment Control Structures:
 - a. Erosion and sediment control structures and devices shall be inspected daily, and any defects in the general intent of the control structures or devices shall be immediately repaired.
 1. Temporary structures and devices shall be maintained until all permanent erosion and sediment control measures are complete and functioning, at which time maintenance shall cease and the temporary structures and devices shall be removed.
 - b. The construction exit shall be maintained daily to prevent the build-up of foreign material on the stone.
 1. Maintenance shall continue until permanent exit is complete.
2. Vegetation:
 - a. Temporary grasses shall be maintained until permanent grasses are in place.
 - b. Permanent grasses shall be maintained until thirty (30) days from date of Architect's final certificate; any bare spots or dead areas shall be re-seeded or re-sodded as the case may be.
 - c. Maintenance includes protecting, watering, fertilizing, mowing, weeding and re-planting.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 02251 - TERMITE CONTROL

PART 1.00 - GENERAL

1.01 Quality Assurance:

The applicator of chemicals described hereinafter shall have been successfully engaged in the business of termite control for a period of not less than five years immediately prior to performing work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance: Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Guarantee: Upon completion of the work, and as a condition of its acceptance, deliver to the Owner, via the Architect, three copies of guarantee in the form and with provisions as follows:

1. Form of Guarantee: The guarantee shall be in form acceptable to the Architect and shall be drawn in favor of the Owner, his successor, and his assigns.

2. Provisions Required:

- a. All soil poisoning has been performed in accordance with all requirements of this section of the project manual.
- b. The effectiveness of the soil treatment against termite infestation will continue for not less than five years after the date of treatment.
- c. All evidence of re-infestation within the guarantee period will be treated in accordance with the referenced standards and without additional cost to the Owner.
- d. Complete performance of the guarantee is assured by Surety acceptable to the Owner.

3. Performance of Guarantee: Treat, in accordance with all terms of the guarantee, all evidence of termite re-infestation which is discovered within the guarantee period.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage, installation and until date of Architect's final certificate and to protect the installed work and materials of all other trades.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Coordination: Carefully coordinate all soil poisoning activities with the schedule for preparation of other under slab work and for placing the concrete slabs, in order to ensure orderly progress of the total work.

- B. Environmental Conditions: Do not apply soil poison when the soil is wet or there is an immediate likelihood of rain.
- C. Signs: Post signs in the areas of application of soil poison warning workers that soil poison has been applied; remove signs when treated areas are covered by other construction.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Chemicals: FT Termiticide by FMC Corp. Philadelphia, PA 19103 or equal.
Active Ingredient: Cypermethrin 24.8% by weight
Inert Ingredients 75.2% by weight
- B. Water: all water shall be potable.

2.02 All materials must bear a current EPA registration number and all residue and excess material must be disposed of in accordance with FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) 7USC136-136Y.

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the work of this section is to be performed; notify the Architect in writing of conditions detrimental to the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Surface Preparation: Remove all foreign matter from areas to be treated.
- B. Application and Rates: Apply chemical solutions as follows:
 1. Within building area, with or without slabs-on-grade at the rate of 1-1/2 gallons per 10 square feet (or as per manufacturer's recommendation and EPA regulations).
 2. Along interior side of perimeter foundation walls and along both sides of interior foundation walls, at a rate of 4 gallons per 10 lineal feet.
 3. Below expansion joints, control joints and around penetrations through concrete slabs, at a rate of 4 gallons per 10 lineal feet.
 4. Outside building perimeter, in a strip at least 2 feet wide, under areaways, aprons, pads, landings, walks, paved extensions and where paving abuts perimeter of building, at a rate of 1 gallon per 10 square feet.
 5. Under foundations and footings, including but not limited to horizontal and vertical surfaces of excavations, at the rate of 1-1/2 gallons per 10 square feet.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.
- B. Drying: Allow not less than twelve hours for drying after application before proceeding with construction activities that will cover the treated areas.
- C. Protection of Treated Areas: Treated surfaces shall be protected from disturbance until covered by subsequent construction.

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- D. Retreatment: Should treated surfaces be disturbed reapply soil poisoning to the disturbed areas at the rates hereinbefore described.

END OF SECTION

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SECTION 02489 - TOPSOIL AND RE-VEGETATION

PART 1.00 - GENERAL

- 1.01 Descriptions:
- A. Work included: stripping of existing topsoil, storage in stockpiles, replacement of topsoil after other work is completed, seeding, fertilizing and erosion control.

 - B. Related Work:
 - 1. Clearing: Section 02110
 - 2. Earthwork: Section 02200
 - 3. Erosion and Sediment Control: Section 02270
- 1.02 Submittals: Submit seed mix and mulch with method of application for approval.

PART 2.00 - PRODUCTS

- 2.01 Seed Mix: Seed mix and fertilizer shall meet the requirements of the 1983 edition of the Department of Transportation, State of Georgia, Standard Specification For Construction of Roads and Bridges.
- 2.02 Topsoil: Material stripped from site consisting of loose friable loam, reasonably free of admixtures of subsoil, refuse, stumps, rocks, brush, weeds, or other material detrimental to proper development of vegetative growth.
- 2.03 Mulch: Straw or hay, free of noxious weeds, containing not more than 5% seed by weight. Straw shall be in natural, field cut lengths, not chopped or in lengths less than 12" typically.
- 2.04 Hydraulic Mulching: Add cellulose fiber mulch after the proportionate quantities of water and other approved materials have been placed in slurry tank. Mix all ingredients to form homogenous slurry.

PART 3.00 - EXECUTION

- 3.01 Topsoil Excavation: Remove all sod, topsoil, and organic earth. Stockpile topsoil for filling use after all organic material has been removed from it.
- 3.02 Topsoil Placement:
- A. General: When job has been shaped and ready for placement of topsoil, cover all cut-fill areas and construction scars with topsoil to depth of 6". Contour all surfaces in accordance with drawings to blend with existing adjacent terrain.

 - B. Slope Rounding: Round top and bottom of slopes and feather into undisturbed natural terrain. Avoid abrupt grade changes by making smooth transitions from slopes to more level areas.

 - C. Slope Molding: Avoid long continuous slope faces by molding face of slope to accent existing adjacent terrain. Steepen slope faces near ridges and bluffs, laid back to link to natural draws, creating an undulating face.

- D. Surface Roughing: Gauge slope surfaces of 4:1 or steeper with horizontal ridges and trenches to minimum depth of 6", creating roughened surface to lessen erosion, improve moisture percolation, and soil layer binding. Trenches or ridges shall not be longer than 30' to prevent water accumulation or flowing water to cause rivulets.
 - E. Topsoil, after all organic material has been removed from it, may be mixed with other soils found on site and used in the filling operation as directed by the Engineer.
- 3.03 Fertilizing: apply fertilizer at a rate of 100 lbs. per acre.
- 3.04 Seeding: apply seed mix at uniform rates indicated. For drilled-in slopes flatter than 3:1, use approved seed drill or rake into soil lightly and pack.
- 3.05 Mulching:
- A. General: Repair and re-mulch areas damaged at Contractor's expense. Mulch removed by circumstances beyond the Contractor's control shall be repaired as ordered.
 - B. Hay or Straw Mulching: apply to slopes flatter than 3:1 after seeding and watering has been completed, at uniform coverage rate of 1-1/2 tons per acre and crimp, punch or roll into surface of soil. Make passes with roller, having approved studs not less than 6" long, creating staggered pattern. Mulch must be incorporated into soil and resist blowing away by winds in excess of 25 mph.
 - C. Hydraulic Mulching: apply to slopes steeper than 3:1, after seeding, at uniform coverage rate of 3/4 tons per acre.
- 3.06 Watering: When required by Engineer, apply water at a rate of 7,500/acre per day, until project acceptance.

END OF SECTION

SECTION 02501 - SITE DRAINAGE

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Concrete Finishers: For finishing of exposed to view concrete surfaces, use only trained and experienced journeyman concrete finishers.

- B. Reference Specifications: The following sections of this project manual shall form a part of this section to the extent of the reference thereto:
 - 1. Section 02201 - Excavating, Filling & Grading
 - 2. Section 03101 - Concrete Formwork
 - 3. Section 03200 - Concrete Reinforcement
 - 4. Section 03210 - Steel Bar & Welded Wire Fabric Reinforcement
 - 5. Section 03300 - Cast-In-Place Concrete
 - 6. Section 03350 - Concrete Finishes and Curing
 - 7. Section 03600 - Concrete Testing

- C. Testing Laboratory: See Article 1.01, A of Section 02201 of this project manual.

1.02 Definitions: Omitted

1.03 Submittals:

- A. General: Submittals as described in the above referenced sections of this project manual shall apply to this section.

- B. Proof of Compliance: Prior to commencing any work of this section, submit in triplicate to the Architect:
 - 1. a certified statement of qualifications and
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage, and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Place no concrete and erect no masonry when the ambient temperature is below 40 degrees Fahrenheit.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Concrete Form Materials: All concrete form materials and related items required in this portion of the work will be in accordance with Section 03101 of this project manual.

- B. Concrete Reinforcement: All concrete reinforcement and related items required in this portion of the work will be in accordance with sections 03200 and 3210 of this project manual.

- C. Cast-In-Place Concrete Materials: All cast-in-place concrete materials and related items required in this portion of the work will be in accordance with section 03300 of this project manual.
 - D. Brick: All brick shall meet the requirements of Standard ASTM C32-73, Grade MS.
 - E. Masonry Mortar: All masonry mortar shall meet the requirements of Standard ASTM C270-73, Property Specifications for Type M mortar.
 - F. Drop Inlet Frames and Grates: Drop inlet frames and grates shall be cast iron conforming to Federal Specifications QQ-I-652c, of shapes and sizes shown on the drawings and shall be heavy duty, designed for a minimum of 16,000 pound wheel load; grate design shall be manufacturer's standard for size required and shall be bicycle safe.
 - G. Manhole Covers and Lids: See Drawings
 - H. Step Rungs: Omitted
 - I. Trench Drain Frames and Grates: Trench drain frames and grates shall be cast iron conforming to Federal Specification QQ-I-652c, of sizes and shapes shown on drawings and shall be light duty; grate design shall be solid and similar to "Perma-Grip Surface" as manufactured by Neenah Foundry Co., Neenah, WI.
 - J. Storm Sewer Piping: All storm sewer piping shall be concrete, of the sizes shown on the drawings, tongue and groove design and shall conform to the following:
 - 1. 4" through 12" diameter pipe shall meet ASTM C14-73, Class 2 (unless otherwise noted).
 - 2. 15" diameter and larger pipe shall meet ASTM C76-73, Class III, Wall B (unless otherwise noted).
 - K. Storm Sewer Clean-outs: All clean-outs shall be heavy brass or bronze plugs with square nuts, countersunk clean-out cap with cast iron trap screw ferrule.
 - L. Riprap: Omitted
- 2.02 Fabrication, Measurement and Mixing:
- A. Fabrication of Concrete Formwork: All concrete formwork shall be fabricated in strict accordance with Section 03101 of this project manual.
 - B. Fabrication of Concrete Reinforcement: All concrete reinforcement shall be fabricated in strict accordance with Sections 03200 and 03201 of this project manual.
 - C. Measurement of Materials:
 - 1. Concrete: All concrete materials shall be measured in strict accordance with Section 03300 of this project manual.
 - 2. Masonry Mortar: All masonry mortar materials shall be measured in strict accordance with the requirements of ASTM C270-73 for type M mortar.
 - D. Mixing of Materials:
 - 1. Concrete: All concrete shall be mixed in strict accordance with Section 03300 of this project manual.

2. Masonry Mortar: All masonry mortar shall be mixed in strict accordance with the requirements of ASTM C270-73.

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. General: refer to drawings for extent of storm drainage system that is existing.
- B. Coordination: Schedule the installation of site drainage to precede all curb and paving work.
- C. Construction of Catch Basins: Construct catch basins for curb inlets and drop inlets to the dimensions shown on the drawings and in conformance with the details shown thereon with brick walls, concrete floors and tops; install frames, grates and covers to finish flush with abutting surface unless specifically shown otherwise on the drawings.
- D. Construction of Manholes: See Drawings.
- E. Construction of Trench Drains: Construct trench drains to the dimensions shown on the drawings and in conformance with the details shown thereon; install frames and grates to finish flush with the abutting surface.
- F. Installation of Storm Sewer Piping:
 1. General: Install concrete storm sewer piping in locations shown on the drawings, in trenches described under Section 02201 of this project manual and in conformance with the requirements of Section 02201 of this project manual and all local codes; all joints shall be tongue and grooved and sealed with Portland cement grout; all changes in horizontal runs shall be made long radius fittings or Y braces and 1/8 bends or 1/16 bends; clean-outs shall extend up to grade and be set in a 12"x12"x6" concrete pads.
 2. Bedding, Filling and Back-filling: All bedding for storm sewer piping and back-filling will be accomplished under Section 02201 of this project manual.
- G. Construction of Concrete Headwalls: Omitted
- H. Installation of Riprap: Riprap is to be installed as a part of Section 02241 of this project manual.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

- B. Testing Laboratory: The independent testing laboratory employed under Article 1.01, shall make tests as described hereinafter to insure compaction commensurate with the requirements of this section.
- C. Testing:
1. Field density checks shall be made at locations and depth as directed by the registered soil engineer.
 2. A minimum of two field density tests for each one foot of lift for each 2,000 square feet of area shall be made during filling and back-filling operations.
 3. Test reports will be furnished as described in Article 1.03 of this section.
 4. All costs for testing shall be paid for by the Contractor.
- D. Cleaning Up: Upon completion of this portion of the work, immediately remove all debris and excess earth materials from the site; place of disposal shall be Contractor's responsibility.

END OF SECTION

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SECTION 02610 - ASPHALTIC CONCRETE PAVING

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Applicator: The applicator of the asphaltic concrete paving shall be regularly engaged in the installation of asphaltic concrete paving.
- B. Industry Standards: Reference standards for materials and processes shall be as defined in Standard Specifications for Construction of Roads and Bridges, Department of Transportation of the State of Georgia, 1983 Edition with modifications as per 1983 Addendum.

1.02 Definitions:

Definitions will be as defined in the referenced standard unless otherwise noted.

1.03 Submittals:

- A. Proof of Compliance: Prior to commencing any work of this section, submit in triplicate to the Architect:
 - 1. a certified statement of qualifications and
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.
- B. Certificates: Submit mix design and materials certification from asphalt mix plant.
- C. Materials: Upon request by Architect, submit samples of materials as described in Sections 03101, 03200, 03210 and 03300 of this project manual.
- D. Test Reports: will be furnished as described in Article 3.03 of this section.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage, and after installation.
- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Prevent the spread of dust during the performance of the work described hereinafter, by keeping all surfaces moistened.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Earth Sub-Base: Sub-base shall be as described in Section 02201 of this project manual as follows:
 - 1. Fill: Article 2.01 and 3.02
 - 2. Cut: Article 3.02
- B. Crushed Stone Base Material: Crushed stone material shall comply with Section 815 of the referenced standard.
- C. Prime: Omitted

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- D. Tack Coat: Omitted
- E. Asphaltic Concrete Materials: Asphaltic concrete mixes shall comply with the materials requirement of Section 828 of the reference standard.
- F. Asphalt Sealer: Asphalt sealer shall be a coal tar emulsion, meeting Federal Specification R-P-355b. Add four (4) lbs. of sand per gallon to make sealer more abrasive.
- G. Weed Killer: Weed Killer shall be a commercial type containing not less than 24 % Sodium Chlorate.
- H. Striping Paint: Striping paint shall be one of the following, in the color or colors as indicated on the drawings.
 - 1. Series B46, Sherwin-Williams, Cleveland, Ohio.
 - 2. Specification No. 50A, Pittsburgh Paints, PPG Industries, Inc., Pittsburgh, Pennsylvania.
- I. Equipment:
 - 1. Compacting: All equipment for compacting shall be steel-tired power rollers having a minimum weight of ten tons, except that hand-held vibrator-compactors may be used in areas not accessible to rollers.
 - 2. Coating: All equipment for prime or tack coating shall be specifically designed for that purpose and shall be subject to the inspection and approval of the Architect.
 - 3. Paving: All equipment for paving shall be spreading, self impelled asphalt paving machines capable of maintaining line, grade, and minimum surface course thickness specified or, subject to the advance approval of the Architect, may be spreader boxes.

2.02 Measurement and Mixing:

Asphaltic concrete materials shall be measured and mixed in accordance with Section 400 Type F surface course of the referenced standard.

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Coordination: Schedule paving work to begin only after all underground utilities, concrete curbs and concrete aprons have been installed.
- B. Sub-Base: Sub-base shall be compacted and tested as specified in Section 02201 of this project manual.

C. Placement of Base Course:

1. Preparation:

- a. After sub-base has been completed as described in Section 02201 of this project manual and has been reviewed by the Architect, roll the surface to a smooth, uniform texture free from lumps, rock pockets, soft spots and spongy areas.
- b. Apply the specified weed killer over the entire area to be paved, applying in strict accordance with the manufacturer's recommendations contained in the material packaging.

2. Placement: Crushed stone base course shall be constructed in accordance with Section 310 of the referenced standard to a compacted depth of (see drawings for depth); stone shall be compacted to 98% of maximum dry density as determined by Modified Proctor Compaction Test (ASTM 1557).

D. Prime or Tack Coat: Omitted

E. Wearing Surface:

1. Wearing surface of asphaltic concrete shall be constructed in accordance with Section 400 of the referenced standard.
2. It shall be placed in one lift, compacted to not less than 96% of the laboratory density obtained by compacting Marshall specimens with 50 blows on each side with a standard Marshall Hammer as specified by ASTM D-1559 at the optimum asphalt content.
3. Compacted depth should be not less than (See Drawings for Depth).
4. The surface shall be checked as soon as practical after rolling is complete with a 15 foot straight edge and irregularities of more than 1/4" in 15 feet or areas that hold water will be corrected.

- F. Sealer: All parking areas and drives shall be sealed with the specified sealer applied in accordance with the manufacturer's instructions.

- G. Striping: Striping shall be done after sealer has cured, using striping machine and full strength paint; striping, including but not limited to arrows, stop and yield markings, shall be as shown on the drawings; **two (2) coats required.**

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Testing Laboratory:

1. An independent testing laboratory will be selected by the Contractor, subject to Owner's approval, to provide testing services as described hereinafter.
2. Services:
 - a. Inspect the initial asphalt batching for compliance with the reference standards.
 - b. The completed paving shall be cored a maximum of ten times, at locations selected by the Architect and each lift tested for density in accordance with ASTM D-2276 to confirm the in-place compaction.

- c. The independent testing laboratory shall furnish five copies of all test reports to the Contractor within 24 hours after completion of the test; the Contractor will furnish the Architect two copies of the independent testing laboratory's report within one working day of receipt of same by Contractor from the testing laboratory.
- d. All costs for testing shall be paid for by the Contractor.

END OF SECTION

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SECTION 02620 - CONCRETE CURBS, PAVING AND FLUMES

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Concrete Finishers: For finishing of exposed to view concrete surfaces, use only trained and experienced journeymen concrete finishers.

- B. Reference Specifications: The following sections of this project manual shall form a part of the section to the extent of the reference thereto:
 - 1. Section 02201 - Earthwork
 - 2. Section 02610 - Asphaltic Concrete Paving
 - 3. Section 03101 - Concrete Formwork
 - 4. Section 03200 - Concrete Reinforcement
 - 5. Section 03210 - Steel Bar & Welded Wire Fabric Reinforcement
 - 6. Section 03300 - Cast-In-Place Concrete
 - 7. Section 03350 - Concrete Finishes and Curing
 - 8. Section 03600 - Concrete Testing

1.02 Definitions: Omitted

1.03 Submittals:

Submittals as described in the above referenced sections of this project manual shall apply to this section.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

- A. Dust: Thoroughly moisten all surfaces to prevent dust from becoming a nuisance to the public, neighbors, and concurrent performance of other work on the project site.

- B. Temperature: Place no concrete when the ambient temperature is below 40°F.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Concrete Form Materials: All concrete form materials and related items required in this portion of the work will be in accordance with Section 03101 of this project manual.

- B. Concrete Reinforcement: All concrete reinforcement and related items required in this portion of the work will be in accordance with Section 03210 and 03200 of this project manual.

- C. Cast-In-Place Concrete Materials: All cast-in-place concrete materials and related items required in this portion of the work will be in accordance with Section 03300 of this project manual.

- D. Base Course: All base course material for this portion of the work shall be fill material as described in Article 2.01 of Section 02201 of this project manual.
- E. Expansion Joint Filler: shall be 3/4" non-extruding meeting requirements of ASTM D-544.
- F. Weed Killer: shall be as described in Section 02610 of this project manual.

2.02 Fabrication, Measurement and Mixing:

- A. Fabrication of Concrete Formwork: shall be fabricated in accordance with Section 03101 of this project manual.
- B. Fabrication of Concrete Reinforcement: All concrete reinforcement shall be fabricated in accordance with Sections 03200 and 3210 of this project manual.
- C. Measurement of Materials: All concrete materials shall be measured in accordance with Section 03300 of this project manual.
- D. Mixing of Materials: All concrete shall be mixed in accordance with Section 03300 of this project manual.

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the work of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Coordination: Schedule installation of concrete curbs, paving and aprons to begin only after all catch basins, manholes and underground utilities have been installed.
- B. Sub-Base: shall be as described in Section 02610 of this project manual.
- C. Placement of Base Course: Base course shall be placed in equal lifts not exceeding 6" in uncompacted thickness; the upper 6" of base course shall be compacted to 95%, Standard Proctor.
- D. Placement of Concrete Curbs, Paving and Flumes:
 - 1. General: Install concrete curbs, paving and flumes in the locations shown on the drawings, in conformance with the details shown thereon and in accordance with placing procedures for cast-in-place concrete as described in Section 03300 of this project manual; formwork and reinforcement placings shall be in accordance with Sections 03101, 03200, and 03210 respectively of this project manual.
 - 2. Curing: shall be in accordance with the curing procedure described in Section 03350 of this project manual for cast-in-place concrete.
 - 3. Finish: All concrete curbs, paving and flumes shall be given a broom finish as described in Section 03350 of this project manual.

3.03 Field Quality Control:

- A. General: The requirements of Sections 03101, 03200, 03210, 03300, 03350, of this project manual.
- B. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 02631 - CONCRETE WALKS, STEPS, RAMPS, LANDINGS AND PADS

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Concrete Finishers: For finishing of exposed to view concrete surfaces, use only trained and experienced journeymen concrete finishers.

- B. Reference Specifications: The following sections of this project manual shall form a part of the section to the extent of the reference thereto:
 - 1. Section 02201 - Earthwork
 - 2. Section 03101 - Concrete Formwork
 - 3. Section 03210 - Steel Bar & Welded Wire Fabric Reinforcement
 - 4. Section 03300 - Cast-In-Place Concrete
 - 5. Section 03350 - Concrete Finishes and Curing

1.02 Definitions:

Definitions shall be as described in the above referenced sections, unless otherwise noted.

1.03 Submittals:

- A. General: Submittals as described in the above referenced sections of this project manual shall apply to this section.

- B. Samples:
 - 1. Exposed Aggregate: Submit samples, sufficient quantities, to the Architect, showing full range of size and color of the proposed aggregate to be used in this project.

- C. Proof of Compliance: Prior to commencing work of this section, submit in triplicate to the Architect:
 - 1. a certified statement of qualifications
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements in this section.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

- A. Dust: Thoroughly moisten all surfaces to prevent dust from becoming a nuisance to the public, neighbors, and concurrent performance of other work on the project site.

- B. Temperature: Place no concrete when the ambient temperature is below 40°F.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Concrete Form Materials: All concrete form materials and related items required in this portion of the work will be in accordance with Section 03101 of this project manual.
- B. Concrete Reinforcement: All concrete reinforcement and related items required in this portion of the work will be in accordance with Section 03210 of this project manual.
- C. Cast-In-Place Concrete Materials: All cast-in-place concrete materials and related items required in this portion of the work will be in accordance with Section 03300 of this project manual.
- D. Expansion Joint Filler: Expansion joint filler shall be asphalt impregnated cane fiber, conforming to ASTM C1751-71A of depths and thicknesses required by the drawings.
- E. Exposed Aggregate: Exposed aggregate shall be smooth, round river gravel, brown in color, 1/2 inch to 1/2 inch diameter and shall be selected by the Architect from submitted samples.

2.02 Fabrication, Measurement and Mixing:

- A. Fabrication of Concrete Formwork: All concrete formwork shall be fabricated in accordance with Section 03101 of this project manual.
- B. Fabrication of Concrete Reinforcement: All concrete reinforcement shall be fabricated in accordance with Section 3210 of this project manual.
- C. Measurement of Materials: All concrete materials shall be measured in accordance with Section 03300 of this project manual.

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the work of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. General: Install concrete walks, landings, pads, steps, wheelchair ramps and miscellaneous concrete paving in the locations shown on the drawings in conformance with the details shown thereon and in accordance with the placing procedures for cast-in-place concrete as described in section 03301 of this project manual; formwork and reinforcement placing shall be in accordance with sections 03101 and 03210 respectively of this project manual.
- B. Curing of Concrete: Curing shall be cured in accordance with the curing procedures for cast-in-place concrete as described in section 03300 of this project manual.
- C. Concrete Finishes:
 - 1. All horizontal surfaces, except where exposed aggregate finish is called for, shall be given a broom finish as described in Section 03350 of this project manual.

2. All vertical surfaces and non-walking surfaces shall be given a rubbed finish as described in section 03350 of this project manual.
3. Horizontal surfaces to receive an exposed aggregate finish shall be screeded and troweled flat; aggregate shall then be sprinkled on the surface at a rate of approximately 3 pounds aggregate per square foot or until concrete is completely covered; float aggregate into the concrete and again trowel to a smooth finish; after 3 to 5 hours, at about the initial set of the concrete, carefully remove a thin layer of cement paste from the surface by washing with a light spray of water, exposing the aggregate to view.

3.03 Field Quality Control:

- A. General: The requirements of Sections 03101, 03210, 03300 apply to this section.
- B. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.
- C. Protection: Protect all surfaces from damage from any cause.
- D. Cleaning: Prior to final inspection, clean all surfaces using clear water and soft bristle brushes.

END OF SECTION

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SECTION 02710 - CHAIN LINK FENCES AND GATES -
PROVIDE 6' HIGH TEMPORARY CHAIN LINK FENCE AROUND ENTIRE CONSTRUCTION SITE

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Qualifications of Manufacturer: Fence components shall be manufactured in accordance with the standards and specifications of the Chain Link Manufacturers Institute.

- B. Qualifications of Installers: The installer of the products of this section shall have been successfully engaged in the business of erecting chain link fences for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

- A. Proof of Compliance: Prior to commencing work of this section, submit in triplicate to the Architect:
 - 1. a certified statement of qualifications
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements in this section.

- B. Shop Drawings: Submit shop drawings, fully dimensioned and showing method of installation and relation of fencing to adjacent structures, to Architect for review prior to commencing installation of the products of this section.

- C. Manufacturer's Data: Before any products are delivered to the project site, submit to the architect for review, manufacturer's detailed descriptive and specification data for products described hereinafter.

- D. Samples: If requested by the Architect, submit samples as required.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Place no concrete unless the ambient temperature is at least 40°F and rising.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Chain Link Fencing and Gates:
 - 1. Manufacturer:
 - a. Design is based on vinyl coated, Permalink chain link fencing and gates, Specification #2 with 2", 9 gauge mesh, as manufactured by Dominion Fence and Wire Limited, Plainfield, IL.

b. The following are acceptable:

1. Colorband II as manufactured by Colorguard Corporation, Raritan, NJ.
 2. Vinyl coated chain link fencing and gates as manufactured by Semmerling Manufacturing Corp. Wheeling, IL.
2. Accessories: Furnish all accessories necessary for completing installation, including but not necessarily limited to terminal and line post caps, rail ends, bands, hinges, latch for padlocking, collars, gate center rests, gate holdbacks, drawbars, etc.; all accessories shall be vinyl coated and be manufacturer's standard items.
- B. Concrete: Concrete shall be 3000 psi at 28 days and shall be proportioned and mixed in accordance with Section 03300 of this project manual.

2.02 Fabrication:

Chain link fencing and gates shall be fabricated to the designs, heights and sizes shown on the drawings and from materials and in accordance with the standards and specifications hereinbefore referenced.

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the work of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Install fencing and gates in the locations shown on the drawings and in accordance with the details shown thereon and the manufacturer's instructions.
- B. Cast-In-Place Concrete: Concrete shall be placed in accordance with Section 03300 of this project manual and all exposed to view surfaces shall be given a broom finish in accordance with Section 03350 of this project manual.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 02721 - EXTERIOR SIGNS

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. **Qualifications of Manufacturer:** The manufacturer of the products of this section shall have been successfully engaged in the business of manufacturing and fabricating exterior signs for a period of not less than five years immediately prior to commencing the manufacture of the products of this section.

- B. **Qualifications of Installers:** The installer of the products of this section shall have been successfully engaged in the business of installing exterior signage for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

- A. **Proof of Compliance:** Prior to commencing work of this section, submit in triplicate to the Architect:
 - 1. a certified statement of qualifications
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements in this section.

- B. **Shop Drawings:** Submit shop drawings, fully dimensioned and showing method of installation and relation of signs to adjacent structures, to architect for review prior to commencing installation of the products of this section. All sign designs to conform to Department of Transportation, State of Georgia, and Americans with Disabilities Act guidelines.

- C. **Manufacturer's Data:** Accompanying the shop drawing submittal, furnish the architect for review, manufacturer's detailed descriptive and specification data for products described hereinafter.

- D. **Samples:**
 - 1. After review of the above submittals, but prior to commencing fabrication, submit to the Architect for review:
 - a. two full size (at least 3 letters and 3 numbers) samples of the pre-spaced/die cut letters in each size required.

 - b. 2 color samples, at least 3" x 3", of finish proposed for exposed to view metal.

 - 2. Do not proceed with fabrication until all samples have been approved by the Architect.

1.04 Product Handling:

- A. **Protection:** Protect the products of this section from damage during delivery, storage and after installation.

- B. **Replacements:** In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Prior to commencing installation of the products of this section, all paving, curbs and gutters and finish grading shall be complete.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Sign Panels: Sign panels shall be 0.125 inch aluminum alloy; #312 medium bronze duranodic finish.
- B. Sign Posts: Sign posts shall be extruded from 606 3-T aluminum alloy; #312 medium bronze duranodic finish.
- C. Post Caps: Post caps shall be not less than 0.125 inch aluminum alloy; #312 medium bronze duranodic finish.
- D. Angles: Angles shall be extruded from 606 3-T aluminum alloy and shall be sized by the sign manufacturer for the particular sign.
- E. Adhesive: shall be sign manufacturer's standard fully waterproof.
- F. Fasteners: shall be manufacturer's standard.
- G. Letters: All letters shall be die-cut vinyl; white color unless otherwise noted on the drawings.
- H. Concrete: All concrete shall be 3000 psi at 28 days as described in Section 03300 of this project manual.

2.02 Fabrication:

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the work of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Preliminary Requirements: Attention is called to Article 1.05 of this section.
- B. Erection: Erect signs in the locations shown on the drawings in compliance with the details shown thereon and the sign manufacturer's printed instructions.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.
- B. Cleaning: Prior to final inspection, remove all maskings and clean all products of this section as recommended by their manufacturer.

END OF SECTION

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SECTION 03101 - CONCRETE FORMWORK

PART 1.00 - GENERAL

1.01 Description:

- A. Related work specified elsewhere:
 - 1. Concrete Reinforcement.
 - 2. Cast-In Place Concrete.
 - 3. Concrete Finishes.

- B. Work specified in this section includes concrete formwork, accessories, and form coating.

1.02 Submittals: Submit in accordance with section 01301 the following:

- A. Manufacturer's Literature: Submit copies of manufacturer's product specifications and installation instructions for manufactured products, including form sealer and release agent.

- B. Samples:
Submit the following:
 - 1. Form ties (samples on each type).
 - 2. Water stops (12" lengths).

1.03 Quality Criteria:

- A. Industry Standards:
 - 1. American Concrete Institute, ACI-301, Specifications for Structural Concrete for Buildings.

 - 2. American Concrete Institute, ACI-318, Building Code Requirements for Reinforced Concrete.

 - 3. American Concrete Institute, ACI-347, Recommended Practice for Concrete Formwork.

 - 4. American Concrete Institute, ACI-SP-15, Field Reference Manual.

 - 5. Southern Pine Inspection Bureau (SPIB) Grading Rules.

 - 6. Western Wood Products Association (WWPA) Grading Rules.

 - 7. American Plywood Association (APA) Grading Rules.

- B. Allowable Tolerances: Construct formwork within tolerance requirements of ACI-347. Maximum deflection of form facing material between supports shall be limited to $0.0025 \times \text{span}$. Exposed faces of turned down slab shall be within 1/4 inch of plan dimension to mate with CMU wall surface.

PART 2.00 - PRODUCTS

2.01 Forming Materials:

- A. Lumber: for work unexposed in finished project: #2 Southern Yellow Pine.

- B. Plywood:
 - 1. For exposed concrete: MDO-EXT-APA or B-B Plyform EXT-APA.
 - 2. For unexposed concrete: C-C EXT-APA.

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- C. Metal or Plastic Forms: Smooth, undented, clean steel and new plastic forms may be used with Architect's approval.
- D. Earth Forms: Forms for footings may be cut into earth, provided that earth is dry, stable, level and sound.
- E. Form ties: Breakback type with 5/8" removable vinyl sleeve of 1" diameter breakback cone type.
- F. Plywood Form Sealer: Colored polyurethane coating of type acceptable to plywood manufacturer, for sealing cut edges of plywood.
- G. Form Release Agent: Type as required to eliminate staining or causing surface imperfections in finishes. Use same brand form release agent for all forms.
- H. Water Stops: Extruded polyvinyl-chloride, minimum size 6' wide x 3/16" thickness with two 3/8" diameter bells, unless otherwise indicated.

PART 3.00 - EXECUTION

3.01 Formwork Construction:

- A. Construct formwork to lines and elevations required to produce concrete surfaces in accordance with Contract Documents.
- B. Construct forms to be removed without hammering or prying against concrete.
- C. Layout of joints in formwork shall be in accordance with acceptable practice. Joints shall bear tightly on solid back-up.
- D. Build trap doors into back of vertical forms to facilitate cleaning, inspection and deposition of concrete. Box out for accessories, anchors, and openings as required. Secure items required to be built into concrete in forms.
- E. Clean forms of dirt, debris, concrete and foreign matter before each use or re-use. Examine forms prior to each re-use and replace those which developed defects affecting the strength, tightness or visual appearances.
- F. Immediately prior to placement of reinforcing, apply form release agent to forms in accordance with manufacturer's instructions. Rate of application shall be constant to prevent discoloration of concrete. Remove excess material immediately.
- G. Construct bulkheads with keys at separation of pours, except as otherwise noted on drawings. Locations of bulkheads shall be as indicated on approved shop drawings.

3.02 Removal of Forms:

- A. Contractor shall assume full responsibility for removal of formwork and forms shall be removed in such a manner as to insure complete safety of structure.
- B. Under ordinary weather conditions, wall forms and other vertical forms for concrete which do not span between definite supports may be removed after the concrete has hardened sufficiently to resist damage from removal operations.

END OF SECTION

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SECTION 03200 - CONCRETE REINFORCEMENT

PART 1.00 - GENERAL

1.01 Description:

- A. Related work specified in other sections includes: concrete formwork and cast-in-place concrete.
- B. Work described in this section includes reinforcement, metal and plastic accessories.

1.02 Submittals: Submit in accordance with section 01301 the following:

- A. Shop Drawings: Indicate bar bending details, bar lists and placement drawings for all reinforcement. Indicate dimensions on placement drawings.
 - 1. Form placement drawings, including schedules, details and notes, shall contain same information as contract drawings.
 - 2. Show wall reinforcement in elevation.
 - 3. Indicate locations of accessories, conduits, and piping to be embedded in concrete.
- B. Mill Tests:
 - 1. Submit for each heat of reinforcing steel, certifying mill tests conducted in accordance with ASTM requirements.
 - 2. Costs for tests shall be borne by Contractor.
 - 3. Unidentified bundles by be rejected or tested at the request of the Owner's representative. Cost of tests on unidentified bundles shall be borne by the Contractor.
 - 4. Submit three copies of each test report to the Architect.
 - 5. Submit one copy of report of chemical analysis of reinforcing steel requiring welding to the Architect for review.

1.03 Delivery, Storage & Handling:

- A. Deliver reinforcement in bundles with waterproof tags. Maintain tags attached until material is incorporated into work.
- B. Deliver and handle materials to prevent damage to or weakening of reinforcement.
- C. Prevent accumulation of rust or debris on reinforcement during storing. Store off ground and under cover.

1.04 Quality Criteria:

- A. Adhere to the following industry standards, latest edition, except as otherwise indicated.
 - 1. American Concrete Institute, (ACI) Standards:
 - a. ACI-301, Specifications for Structural Concrete for Buildings.
 - b. ACI-315, Manual of Standard Practice for Detailing Reinforced Concrete Structures.

- c. ACI-318, Building Code Requirements for Reinforced Concrete with supplements.
2. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice - Placing Reinforcing Bars.
3. American Welding Society (AWS) AWS D12.1.

PART 2.00 - PRODUCTS

2.01 Reinforcement:

- A. Bars: Meeting ASTM A615, deformed type for #3 and larger bars.
 1. Ties and Stirrup: Grade 60, unless otherwise noted.
 2. All other bars: Grade 60, unless otherwise noted.
- B. Welded Wire Fabric: Meeting ASTM A185, cold-drawn, resistance welded.
- C. Tie Wire: 16 gauge annealed steel wire.
- D. Accessories:
 1. Prefabricated accessories shall comply with CRSI Manual of Standard Practice, Class E at exposed surfaces and Class A unexposed. Legs of all accessories used in exposed concrete shall be solid plastic or plastic coated.
 2. Accessories on earth: Footing and slab on ground reinforcement may be supported on solid concrete bricks.
 3. Support bars: To maintain height for top reinforcement shall be #5 min.

PART 3.00 - EXECUTION

3.01 Inspection:

- A. Examine surfaces designated to receive work described in this section for conditions adversely affecting the finished work. Repair or replace surfaces not meeting tolerances or quality requirements imposed within specifications governing substrate construction prior to initiating this work.
- B. Review: Notify Owner's representative at least 48 hours prior to placing of concrete to allow time for inspection of reinforcement. Place no concrete in forms without Owner's representative's approval of reinforcement.

3.02 Fabrication & Erection:

- A. Shop fabricate reinforcement to shape and dimensions indicated on approved placement drawings. Bent bars shall be bent cold. Fabricate in accordance with ACI 315 and ACI 318.
- B. Metal reinforcement, at the time concrete is placed, shall be relatively free from rust scale and other coatings reducing bond. Use no bars with kinks or bends not shown on placement drawings.
- C. Place metal reinforcement in accordance with ACI 315, ACI 318 and placement drawings. Secure in position in forms. Top longitudinal bars in this section may be temporarily removed at the request of the Owner's

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representative. Minimum slab reinforcement support spacing shall be as recommended by CRSI. Do not weld items to reinforcing steel unless a written proposal is specifically approved in writing by Owner's representative.

- D. Protective concrete cover over reinforcement shall be as indicated on the drawings.
- E. When reinforcement splices are required for construction and are not shown on the drawings, the locations and lap lengths shall be approved in writing by the Owner's representative. Splice in accordance with ACI 318. Mechanical compression splices will not be permitted unless prior written approval is obtained from Owner's representative. Where welded splices are indicated, use full penetration butt welds in accordance with AWS specifications. Welded splices shall be inspected by an independent testing laboratory selected and paid by General Contractor. Unless shown otherwise, spliced bars shall have a 42 bar diameter length lap splice.
- F. Install wire mesh reinforcing in sizes and locations indicated. Lap joints one wire spacing plus 2" and extend mesh to within 1" of edges of slabs on grade.
- G. Conduit and Pipes: Concrete cover shall be equal to cover for reinforcing bars. Embedded conduit diameter shall not exceed 1/3 slab or wall thickness. Tie down low conduit on top of bottom reinforcing bars. Space no conduit less than three diameters apart and minimum 1" separation from parallel reinforcing bars. Use no aluminum conduits or coupling in concrete.

END OF SECTION

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SECTION 03210 - STEEL BAR & WELDED WIRE FABRIC REINFORCEMENT

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Industry Standards and Specifications: Issues listed (including modifications designated) form part of this specification to extent indicated by reference thereto. Issues are referred to by basic number only, and revisions are noted herein.

1. American Concrete Institute (ACI):

301 Structural Concrete for Buildings.

315 Manual of Standard Practice for Detailing Reinforced Concrete Structures

318 Building Code Requirements for Reinforced Concrete

2. American Society for Testing & Materials (ASTM):

A 82-79 Cold Drawn Steel Wire for Concrete Reinforcement

A 185-79 Welded Steel Wire Fabric for Concrete Reinforcement

A 615-82 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

3. Concrete Reinforcing Steel Institute (CRSI):

Manual of Standard Practice (MSP), January 1976

4. American Welding Society (AWS):

D12.1 Recommended Practices for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction.

B. Allowable Tolerances:

1. Concrete cover to formed surfaces: 1/4" +/-.
2. Minimum spacing between bars: 1/4 +/-.
3. Top bars in slabs and beams:
 - a. Members 8" deep or less 1/4"+/-;
 - b. Members over 8" deep but not over 24" 3/4"+/-;
 - c. Members over 24" deep 1" +/-.
4. Lengthwise of members: 2"+/-.

- C. Mill Verification Tests: Submit in triplicate, to the Architect, mill test on each 15 tons or less of reinforcing steel shipped to the job.

1.02 Definitions: Omitted

1.03 Submittals:

- A. Manufacturer's Data: Submit to the Architect the following:
1. Specifications and Instructions:

- a. Material and fabrication specifications, and installation instructions for products is specified under Part 2.
 - b. Modify submission by letter form to reflect project requirements and job conditions.
 - c. Include instructions for handling, storage and protection for each product.
2. Certificates of Mill Verification Tests.
- B. Shop Drawings: Prior to commencing fabrication, submit shop drawings to the Architect for review, complying with the following:
1. Indicate complete fabrication, bar list, bending, and placement of reinforcement.
 2. Comply with ACI 315.
 3. Details and notes appearing on contract drawings, and giving information for placing of reinforcing steel, shall be shown also on shop drawings. Shop drawings will not be reviewed without such information.
 4. Beam and slab schedules shall show information and be of same general form as those on contract drawings.
 5. Wall reinforcing shall be shown in elevation.
 6. Location and arrangements of accessories shall be clearly indicated.
- 1.04 Product Handling:
- A. Delivery:
1. Deliver reinforcement to project site bundled, tagged and marked.
 2. Use metal tags and indicate bar size, lengths and information corresponding to designations shown on shop drawings.
- B. Storage: Store reinforcement materials at site to prevent damage and accumulation of dirt and rust scale.

1.05 Job Conditions:

Coordinate with mechanical and electrical work which is buried in slab so that interferences are resolved without impairing structural stability, and utility services, leave and enter slab at points indicated.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Bars: All bars, except #2 bars shall be deformed type, conforming to ASTM A615 and shall be manufactured from new billet steel of American manufacture, conforming to ASTM A615 grade 60 or grade 40 as shown on the drawings.
- B. Tie Wire: All tie wire shall be 16 gauge or heavier, black annealed.

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- C. Welded Wire Fabric: Welded wire fabric or cold-drawn wire shall conform to ASTM A185 or ASTM A82, respectively, and unless otherwise indicated be 6 x 6 - 10/10.
- D. Support Devices: shall comply with CRSI Manual and ACI 315.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Placement:

1. Clean reinforcing bars to remove loose rust and mill scale, earth, ice and other materials which reduce or destroy bond with concrete.
2. Place reinforcement, supports and splice devices in accordance with CRSI Manual and ACI 315.
3. Support and tie reinforcing to prevent its displacement by construction loads or placement of concrete.
4. Move as necessary to avoid interference with other reinforcing steel, conduits or embedded items.
5. Bars moved more than tolerances specified must be verified with the Architect.

B. Bar Supports: Provide support at intervals to carry reinforcing and maintain its position during concreting.

C. Concrete Cover: Reinforcing shall be secured in position to allow the following concrete cover, unless noted otherwise:

1. Footings: 3" clear to sides and bottom.
2. Framed slab (one way): 3/4" clear to top and bottom.
3. Beams and girders: 2" clear to principal reinforcement all around except lower top reinforcement to accommodate other beams. Note placing drawings.
4. Columns: 2" clear to principal reinforcement, all sides.
5. Walls: 2" clear, surfaces exposed to weather or earth; 1" clear, interior surfaces.

D. Splices:

1. Splices in reinforcement not shown on drawings, or not as specified herein shall not be made.

2. Splices shall not be made at point of maximum stress.
3. Lap shall transfer stresses between bars by bond.
4. Temperature bars in walls, floor and roof slabs shall be spliced by lapping 24 diameters except minimum lap shall be 18".
5. Splices in temperature reinforcement shall be staggered.
6. Splices in column bars shall be as indicated.

E. Fabric:

1. Place fabric in top of slabs on grade and in other locations as may be indicated.
2. Lap joints 2 wire spacings but not less than 6".
3. Extend fabric to within 2" of sides and ends of slabs.

3.03 Field Quality Control:

- A. Clean Up: Upon completion of the placing of reinforcement, conduit, sleeves, inserts and other items to be embedded in the concrete, remove extraneous materials, rubbish and other foreign matter from forms.
- B. Inspection: Notify Architect at least 48 hours prior to placing of concrete to allow for inspection of reinforcement and formwork; place no concrete in forms without Architect's consent.

END OF SECTION

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SECTION 03300 - CAST- IN-PLACE CONCRETE

PART 1.00 - GENERAL

1.01 Description

- A. Work under this section consists of providing reinforced and non-reinforced concrete as indicated on the drawings.
 - 1. Materials shall be free from defects impairing strength, durability or appearance.
 - 2. Exposed surfaces throughout project shall have the same texture and color for like locations.
- B. Related Documents: Drawings and general provisions of the contract, including general and supplementary conditions and Division One sections of these specifications, apply to the work of this section.

1.02 References

- A. Codes and Standards:

Comply with the latest edition of the standards specified in this section:

 - 1. ACI 301, "Specifications For Structural Concrete For Buildings".
 - 2. ACI 304, Reaffirmed 1983, "Recommended Practice For Measuring, Mixing, Transporting and Placing Concrete".
 - 3. ACI 305, "Hot Weather Concreting".
 - 4. ACI 306, "Cold Weather Concreting".
 - 5. ACI 309, "Identification and Control of Consolidation Related Surface Defects In Formed Concrete".
 - 6. ACI 315, "Details And Detailing of Concrete Reinforcement".
 - 7. ACI 318, "Building Code Requirements for Reinforced Concrete".
 - 8. ASTM A82, "Cold-Drawn Steel Wire For Concrete Reinforcement".
 - 9. ASTM A615, "Deformed and Plain Billet-Steel Bars For Concrete Reinforcement".
 - 10. ASTM C31, "Making and Curing Concrete Testing Specimens In The Field".
 - 11. ASTM C33, "Concrete Aggregates".
 - 12. ASTM C42, "Obtaining and Testing Drilled Cores and Sawed Beams of Concrete".
 - 13. ASTM C78, "Test Method for Flexural Strength of Concrete".
 - 14. ASTM C94, "Ready-Mixed Concrete".
 - 15. ASTM C143, "Test Method For Slump Of Portland Cement Concrete".

16. ASTM C150, "Portland Cement".
17. ASTM C171, " Sheet Materials For Curing Concrete".
18. ASTM C172, "Sampling".
19. ASTM C173, "Test Method For Air Content of Freshly Mixed Concrete By The Volumetric Method".
20. ASTM C192, "Making And Curing Cylinder".
21. ASTM C231, "Test Method For Air Content of Freshly Mixed Concrete By the Pressure Method".
22. ASTM C260, "Air-Entraining Admixtures For Concrete".
23. ASTM C309, "Liquid Membrane-Forming Compounds For Curing Concrete".
24. ASTM C494, "Chemical Admixtures For Concrete".
25. ASTM C618, "Fly Ash".
26. AWS-D1.4, "Structural Welding Code - Reinforced Steel".
27. CRSI "Manual of Standard Practice".

1.03 Submittals

- A. General: Comply with the provisions of Section 01301.
- B. Manufacturer's Data: submit:
 1. Mix designs for each type and class of concrete. Submittal shall include independent lab tests verifying the design strength in accordance with ACI 318 chapter 4.
 2. Complete list of all items proposed for the work under this section and sufficient data to demonstrate compliance with these specifications.
 3. Complete description of proposed curing methods.
 4. Concrete cylinder test reports.
- C. Shop Drawings: Submit complete shop drawings of all materials proposed to be provided under this section. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures". Include:
 1. Bar schedules, stirrup spacing, diagrams of bent bars, arrangement and assemblies.
 2. Special reinforcement required around openings throughout concrete structures.
 3. Location of all proposed construction joints, keying, and water stops.

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4. Locations of all openings, depressions, construction and control joints, trenches, sleeves, inserts, and other items affecting the reinforcement and placing of concrete.
- D. Mill Certificates: Accompanying the shop drawings, submit steel producer's certificates of mill analysis, tensile, and bend test for reinforcing steel.
- E. Placement Schedule: submit schedule for all pours in project. Number each pour in schedule and cross reference schedule number to test report submittals indicating location for each pour.

1.04 Quality Assurance

- A. Installer Qualifications: Provide at least one person thoroughly familiar with specification requirements, completely trained, qualified to perform the work, who shall be present at all times on the project site directing the work. Provide additional skilled personnel to ensure installation in strict accordance with design documents.
- B. Allowable Tolerances for Concrete Placement:
 1. Variation from level or grades specified or indicated, unless noted on plans:
 - a. Slabs:
 1. in any ten foot length: 1/8"
 2. in any bay or in any 20' length and maximum for the entire length: 1/4 "
 2. Variation of the linear building lines from established position in plan and related position of columns, walls and partitions:
 - a. In any bay: 1/4"
 - b. In any twenty foot length: 1/4 "
 - c. Maximum for the entire length: 3/8 "
 3. Variation in the sizes and location of sleeves, floor openings, and wall openings: 1/4 "
 4. Variation in the thickness of slabs: 1/4 "
 5. Variations in footings:
 - a. Dimensions in plan: 1"
 - b. Misplacement of eccentricity: 2% of the footing width in the direction of misplacement but not more than 2".
 - c. Thickness:
 1. decrease: 5% or max. 2 "
 2. increase: no limit

6. Variations in Steps:
 - a. Each flight:
 1. rise: 1/8 "
 2. run: 1/4 "
 - b. Consecutive steps:
 1. riser: 1/16 "
 2. tread: 1/8 "

1.05 Product Handling

- A. Protection: Use all means necessary to protect materials of this section before, during and after installation and to protect installed work and materials of all other trades.
- B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the Owner's representative's approval at no additional cost.

1.06 Job Conditions

- A. Cold Weather Concreting: Equipment shall be provided for the protection of the concrete during freezing or near freezing weather. No frozen materials or materials containing ice shall be used. Whenever the temperature is below 40 degrees Fahrenheit, all concrete placed in the forms shall have a temperature of between 70 and 80 degrees Fahrenheit, and means shall be provided for maintaining a temperature of not less 70 degrees Fahrenheit, for three (3) days, or 50 degrees Fahrenheit or five (5) days, or for more time to insure curing of the concrete. Work shall be in accordance with ACI 306, "Recommended Practice For Cold Weather Concreting".
- B. Hot Weather Concreting: During hot weather when atmospheric temperature rises higher than 90 degrees Fahrenheit, attention shall be given to ingredients, production method, handling, placing, protection and curing to prevent excessive concrete temperatures or water evaporation in accordance with ACI 305, "Recommended Practice For Hot Weather Concreting".

PART 2.00 - PRODUCTS

2.01 Concrete

- A. Concrete shall be produced at a central batching plant, mixed and delivered in the forms.
- B. Concrete shall be class, weights, and strengths as listed herein, shown in the drawings, and as otherwise directed and specified.

C. Concrete Class:		Minimum Strength @ 28 days	
<u>Item Description</u>	<u>Class</u>	<u>Weight</u>	<u>Slump</u>
footings, walls and piers	A	normal 150 pcf	3000 psi 3-5
slab on grade	B	normal 150 pcf fiber reinforced	3000 psi 3-5
elevated slabs	C	See Drawings	3-5

D. Concrete Materials:

1. Portland Cement: Meeting ASTM C150, type I or II, and using one brand of cement throughout project.
2. Fine Aggregates: Conform to ASTM C33, for normal weight and ASTM C330, for light weight.
3. Coarse Aggregate: Conform to ASTM C33, for normal weight. Maximum size shall be 1" for slabs; 1-1/2" for reinforced footings; or not more than 1/5 the narrowest dimension between the sides of the forms or 3/4 the minimum clear distance between parallel reinforcing - whichever is smaller.

2.02 Curing Material

- A. Liquid curing and sealing compounds shall conform to ASTM C309. See acceptable products:
 1. Type: Clear high solids based, meeting ASTM C309, type I.
 - a. Gifford-Hill & Co., Inc. Sealco 8000
 - b. Guardian Chemical Co.
 - c. Protex Industries, Inc.
- B. Sheet materials shall conform to ASTM C171.
- C. Burlap cloth made from jute or kenaf and weighing approximately 9 oz. per square yard for moist curing. Provide two layers.

2.03 Other Materials

- A. Acceptable Manufacturers: Other manufacturers for a particular material may be submitted for consideration to the Architect, provided products are of comparable design, quality and accompanied by satisfactory evidence as defined in Section 01600. Materials described herein are based on manufacturer's product and industry standards in order to establish standards of design and quality.
- B. Provide manufacturer technical field service during initial pours, at no cost to the Owner by a person experienced in the adjustment of concrete mixes for the particular admixtures being used.
- C. Air Entraining Admixtures: Conform to the requirements of ASTM C260 and shall contain no chloride. Submit data for approval.
 1. Euclid Chemical Company:
 - a. Air Mix.
 - b. Perma Air.
 2. Gifford-Hill:
 - a. Air-Tite.
 - b. Amex 210.
 - c. Air-Tite 60 (formulated for fly ash mixtures).
 3. Monier:
 - a. Relcrete Air 30.
 - b. Relcrete Air 40.
 - c. Septair.

- D. Water Reducing Admixture: ASTM C494, type A for normal setting or type D for retarding admixture; contain no chloride, and free of organic acids, (or salts of organic acids) and compatible with air entraining admixture. Submit data for approval.
 - 1. Euclid Chemical Co.:
 - a. Eucon II, type A, mild setting.
 - b. Eucon HR 75, type A, normal setting.
 - 2. Gifford-Hill:
 - a. P.S.I., type A or D, chloride free.
 - 3. Monier:
 - a. Relcrete L, N or T.
- E. Retarding Admixtures: Conform to ASTM C494, type B or type D; contain no chloride and free of organic acids or salts; and compatible with air entraining admixture. Submit data for approval.
 - 1. Euclid Chemical Company, Eucon Retarder 75, type B or type D.
 - 2. Master Builders, Pozzolith.
 - 3. Silka 161 R, type D.
- F. All other materials, not specifically described, but required for a complete and proper installation, shall be as selected by the Contractor subject to the Owner's representative's approval.

2.04 Proportioning of Concrete Mixtures

- A. General: The concrete shall be proportioned by one of the following methods: laboratory verification method or water/cement ratio method. Proportioning shall be based on the requirements of a plastic and workable mix within the slump range for class and strength as specified.
- B. Air content of freshly mixed concrete as determined by the method of ASTM C173 shall be 5%. A field tolerance of 1% plus or minus is acceptable. All concrete shall be air entrained except for footings.
- C. Water reducing admixture shall be used in all concrete to reduce the total water requirement per cubic yard of concrete without loss of workability or test strength.
- D. Retarding admixture shall be used to retard the setting time when anticipated ambient temperature exceeds 75 degrees Fahrenheit during placing or finishing operations.

2.05 Batching and Mixing

- A. Measure cement by weight on a scale separate from those used for other materials. Cement may be measured in bags of standard weight of 94 pounds; however, no fraction of a bag shall be used in any batch.
- B. Measure aggregates by weight. Batch weights shall be based on saturated surface dry materials corrected for the actual moisture condition of the aggregate.
- C. Measure water by volume or by weight by devices not subject to variation due to variable pressure in the water supply line. Measuring tanks shall be provided with means for checking their calibration.

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- D. Devices for measuring quantities of cement, aggregates, water and admixtures shall be accurate within 1% under operating conditions.
- E. Furnish delivery ticket for each batch of concrete before unloading at the site. Weights of fine and coarse aggregate, amount of cement, and total water as batches shall be printed on ticket by an automatic printing device. Delivery tickets shall, in addition, include the following:
1. Name of batch plant.
 2. Serial number of ticket.
 3. Date and truck number.
 4. Name of contractor.
 5. Job name of location.
 6. Class of concrete and slump.
 7. Cubic yards of concrete.
 8. Time loaded.
 9. Amount water added at job.
 10. Initials of Job Superintendent.
- F. Ready-mixed concrete shall be produced and delivered in accordance with the requirements of ASTM C94.

PART 3.00 - EXECUTION

3.01 Execution

- A. Examine the substrate and conditions under which work of this section is to be performed, and correct unsatisfactory conditions which would prevent proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Conduit Work:
1. Electrical conduits shall be buried in concrete slabs. Low conduit shall be wired to the upper side of bottom reinforcing, and top conduit shall be wired to the lower side of top steel.
 2. Take care in placing concrete around gangs or parallel conduit. Where such conduits occur, they shall be separate by at least one inch (1"), concrete slab shall be thickened to maintain the same cross sectional concrete area.

3.02 Reinforcing Placement

- A. General:
1. Comply with the specified standards for details and methods of reinforcement placement and supports, and as herein specified.
 2. Clean reinforcement to remove loose rust and mill scale, earth and other materials which reduce or destroy bond with concrete.
 3. Position, supports, 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.
 4. Place reinforcement to obtain the minimum coverage for concrete protection. Arrange, space, and securely tie bars and bar supports together with 16 gauge wire to hold reinforcement accurately in position during

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concrete placement operations. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.

5. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh.
 6. Provide sufficient numbers of supports of the strength required to carry reinforcement. Do not place reinforcing bars more than 2 inches beyond the last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
- B. Splices: Provide standard reinforcement splices by lapping ends, placing bars in contact and tightly wire tie.

3.03 Joints

- A. Construction Joints:
1. Horizontal construction joints will not be permitted except as shown on the drawings.
 2. If construction joints necessary for the progress of the work are not shown on the drawings, show them in complete detail on Shop Drawings.
 3. For slabs on grade, locate joints as indicated on the drawings.
 4. Provide keyways at least mid depth in all construction joints in walls, slabs, and between footings and walls.
- B. Isolation Joints In Slabs On Grade: Provide isolation joints in slabs on grade at points of contact between slabs on grade and vertical surfaces where indicated.
- C. Control Joints In Slabs On Grade: Provide control joints in slabs on grade to form panels or patterns as shown. Joints shall be constructed with keyed metal forms as indicated. Except where floor covering is required, construction and expansion joints in slabs shall be filled with joint sealant meeting the requirements of Division 7.

3.04 Concrete Placement

- A. General:
1. Place concrete in compliance with practices and recommendations of ACI 304, and as herein specified.
 2. Notify Owner's representative 48 hours before placing concrete in any portion of the structure to permit inspection of the forms and reinforcement. All embedded items of whatever nature shall be in place prior to inspection.
- B. Procedures:
1. Do not place any concrete which does not meet slump requirements for concrete specified.

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2. Deposit concrete continuously 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.
 3. If a section cannot be placed continuously, provide construction joints as herein specified.
 4. Perform concrete placing at such rate that concrete which is being integrated with fresh concrete is still plastic.
 5. Deposit concrete as nearly as practicable in its final location to avoid segregation due to rehandling and flowing.
 6. Do not subject concrete to any procedure which will cause segregation.
 7. Screed concrete which is to receive other construction to the proper level to avoid excessive skimming and grouting.
 8. Do not use concrete which becomes non-plastic and unworkable, or does not meet the required quality control limits, or which has been contaminated by foreign materials.
 9. Remove rejected concrete from the site and dispose of it in an approved location.
- C. Placement Schedule: Place concrete in conformance with the placement schedule to ensure an even distribution of loads throughout the entire structure.
- D. Concrete Conveying:
1. Handle concrete from the point of delivery and transfer to concrete conveying equipment, and to the locations of final deposit, as rapidly as practicable and by methods which will prevent segregation and loss of concrete mix materials.
 2. Keep interior surfaces of conveying equipment, including chutes and tremies, free from hardened concrete, debris, water, and other deleterious materials.
 3. Use chutes or tremies for placing concrete where a drop of more than 72" is required.
 4. Where free drop through tremies exceeds 18', use flow checking devices.
- E. Placing Concrete In Forms:
1. Deposit concrete in forms in horizontal layers not deeper than 24 inches, avoiding inclined construction joints.
 2. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.
 3. Remove temporary spreaders in forms when concrete placing has reached the elevation of such spreaders.

4. Do not place concrete in supporting elements until the concrete previously placed in columns and walls is no longer plastic.

F. Placing Concrete Slabs:

1. Immediately before placing concrete, ensure that any required subgrade, waterproofing, vapor barriers, bond breaks, and/or joint forms have been properly installed.
2. Install wire mesh and/or steel reinforcement as indicated and specified.
3. Deposit and consolidate concrete in a continuous operation, within the limits of the construction joints, until the placing of a panel or area is complete.
4. Consolidate concrete during placement by use of Contractor approved equipment, thoroughly working concrete around the reinforcement and into corners.
5. Consolidate concrete placed against bulkheads of slabs on grade, as specified for formed concrete.
6. Consolidate concrete in remainder of slabs by vibrating bridge screeds, roller pipe screed, or other methods acceptable to the Owner's representative.
7. Screed to correct level with straightedge to bring surface to the required finish elevation with no coarse aggregate.
8. Immediately following screeding finish the surface to a true even plane using bullfloats or darbies. After concrete has stiffened sufficiently to support one man's weight without imprint and the water sheen has disappeared, it shall be wood floated.
9. Unless noted otherwise on the drawings, immediately following wood floating, the surfaces shall be steel troweled to produce a smooth, dense surface free from blemishes including trowel marks. In lieu of hand finishing, an approved power finishing machine may be used in accordance with the directions of the machine manufacturer. A final hard steel troweling shall be done by hand.
10. Do not sprinkle water on the plastic surface; do not disturb the slab surfaces prior to start of finishing operations.
11. Insure that at construction joint, a uniform level surface across the joint is provided. If "humps" or unevenness occur at these joints, they shall be ground to level.

3.05 Hot and Cold Weather Concreting

- A. See Job Conditions, paragraph 1.6 elsewhere herein.

3.06 Consolidation

- A. General:
 1. Consolidate all concrete in forms in accordance with provisions of ACI 309.

2. Consolidate each layer of concrete immediately after placing, by use of internal concrete vibrators supplemented by hand spading, rodding, or tamping.
 3. Do not use vibrators to transport concrete.
 4. Maintain a frequency of not less than 10,000 vibrations per minute for internal vibrators.
 5. Do not vibrate forms or reinforcement.
- B. Equipment: Provide adequate number of units and power source at all times. Maintain spare units on hand.
- C. Procedures:
1. Limit the duration of vibration to the time necessary to produce satisfactory consolidation without causing segregation of aggregate.
 2. Insert the vibrator so as to penetrate the lift immediately below the one being placed, and manipulated to blend the two lifts.
3. Use the vibrator to melt force the concrete as it is being placed, and use the vibrator to consolidate concrete masses.
 4. In the case of wall construction, assign one vibrator and vibrator operator to blend the mix; assign at least one other vibrator and operator for consolidating the masses of concrete.

3.07 Curing

A. General:

1. All concrete shall be cured by an approved method for the period of time given below:

Type III cement	3 days
Type I, II, IP of IS cement	7 days
Type I or Type II cement blended with Pozzolan	12 days
2. Immediately after placement, concrete shall be protected from premature drying extremes in temperatures, rapid temperature change, mechanical injury and injury from rain and flowing water. All materials and equipment needed for adequate curing and protection shall be available and accessible prior to placing concrete. No fire or excessive heat shall be permitted near or in direct contact with the concrete at any time. Curing shall be accomplished by any of the following methods, or combination thereof, as approved by Contractor.

- B. Moist Curing: Concrete to be moist-cured shall be maintained continuously wet for the entire curing period. If water or curing materials used, stains or discolors concrete surfaces which are to be permanently exposed, the concrete surfaces shall be cleaned. When wooden forms are left in place during curing, they shall be kept wet at all times. If the forms are removed before the end of the curing period, curing shall be carried out as on unformed surfaces, using suitable materials. Horizontal surfaces shall be cured by covering with water-proof paper, polyethylene sheet, polyethylene-coated burlap or saturated burlap.

C. Membrane Curing:

1. Membrane curing shall not be used on surfaces that are to receive any subsequent treatment depending on adhesion or bonding to the concrete; except a styrene acrylate or chlorinated rubber compound meeting Class B requirements may be used for surfaces which are to be painted or are to receive bituminous roofing or waterproofing, or floors that are to receive adhesive applications of vinyl composition.
2. Membrane curing compound shall not be used on surfaces that are maintained at curing temperatures with free steam.
3. The curing compound shall be applied to formed surfaces immediately after the forms are removed and prior to any patching or other surface treatment except the cleaning of loose sand, mortar, and debris from the surface.
4. The surfaces shall be thoroughly moistened with water and curing compound shall be applied to slab surface as soon as the bleeding water has disappeared, with the tops of joints being temporarily sealed to prevent entry of the compound and to prevent moisture loss during the curing period.
5. The compound shall be applied in a one-coat continuous operating, at a uniform coverage in accordance with manufacturer's printed instructions.
6. Concrete surfaces which have been subjected to rainfall within three hours after curing compound has been applied shall be recoated at the same coverage rate and method herein specified. On surfaces permanently exposed to view, the surface shall be shaded from direct rays of the sun for the duration of the curing period. Surfaces coated with curing compound shall be kept free of foot and vehicular traffic and from other sources of abrasion and contamination during the curing period.

3.08 Finish Of Formed Surfaces

A. Rough Form Finish:

1. Provide as cast rough form finish to formed concrete surfaces that are to be concealed in the finish work or by any other construction.
2. Standard rough form finish shall be the concrete surface having the texture imparted by the form facing material used, with tie holes and defective area repaired and patched, and all fins and other projections exceeding 1/4" in height rubbed down or chipped off.

B. Smooth Form Finish:

1. Provide as-cast smooth form finish for formed concrete surfaces that are to be exposed to view, or that are to be covered with a coating material other than cement plaster applied directly to the concrete.
2. Produce smooth form finish by selecting form material to impart a smooth, hard, uniform texture and arranging them orderly and symmetrically with a minimum of seams.
3. Repair and patch defective areas with all fins and other projections completely removed and smoothed.

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- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces, strike off smooth and finish with a smooth troweled finish.

3.09 Monolithic Slab Finishes

A. Scratch Finish:

1. Apply scratch finish to monolithic slab surfaces that are to receive concrete floor topping or mortar setting beds for terrazzo tile and other bonded applied cementitious-finish flooring material.
2. After placing slabs, plane the surface to a tolerance not exceeding 1/4" in 24" when tested with a straightedge.
3. Slope uniformly to drains where required.
4. After leveling, roughen the surface before its final set by using a stiff broom, a brush, or a rake.

B. Float Finish:

1. Apply float finish to monolithic slab surfaces that are to receive trowel finish and other finishes as specified, and to slab surfaces which are to be covered with insulation, and as otherwise shown on the drawings or in the schedules.
2. After placing concrete slabs, do not work the surface further until ready for floating.
3. Begin floating when the surface water has disappeared and when the concrete has stiffened sufficiently to permit operation of a power-driven float, or both.
4. Consolidate the surface with power driven floats, or by hand-floating if area is small or inaccessible to power units.
5. Check and level the surface plan to a tolerance not exceeding 1/4" in 10'-0" when tested either a 10'-0" straightedge placed on the surface at not less than two different angles.
6. Cut down high spots and fill low spots.
7. Uniformly slope to drains where required.
8. Immediately after leveling, refloat the surfaces to a smooth, uniform, granular texture.

C. Trowel Finish:

1. Apply trowel finish to monolithic slab surfaces that are to be exposed to view, unless otherwise shown, and to slab surfaces that are to be covered with resilient flooring, carpeting, paint or other thin film finish coating system.
2. After floating, begin the first trowel finish operation using a power driven trowel. Begin final troweling when the surface produces a ringing sound as the trowel is moved over the surface.

3. Consolidate the concrete surface by the final hand troweling operation, free from trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in 10'-0" when tested with a 10'-0" straightedge.
4. Grind smooth those surface defects which would telegraph through applied floor covering system.

D. Nonslip Broom Finish:

1. Apply nonslip broom finish to exterior concrete paving, steps and ramps, and elsewhere as shown on the drawings or in the schedules.
2. Immediately after trowel finishing, slightly roughen the concrete surface by brooming in the direction perpendicular to the main traffic route. Use a fiber bristle broom.

3.10 Protection

- A. Areas shall be barricaded after the curing and sealing compound has been applied. As soon as the compound has dried, adequately cover floor surface to prevent staining, discoloration or physical damage which may be difficult to correct. Use scuff-proof non-staining building paper or polyethylene film, suitably weighted or ballasted with sand as necessary.
- B. Where other concrete structures are to be poured on to or adjacent to finish surfaces, take all necessary precautions to prevent damage from erection of form work or staining from concrete laitance.
- C. Alert other trades to the need for special protection against rolling or sliding heavy loads across the surface, oil drippings from pipe threaders, spillage of paint, plaster and mortar. Ensure that the covering is not damaged or removed during the progress of the work.

3.11 Questionable Concrete

- A. The strength level of the concrete will be considered satisfactory if the averages of three (3) consecutive strength test results equal or exceed the required 28 day strength, and no individual strength test result fall below the required 28 day strength by more than 500 pounds per square inch.
- B. Failure to comply with the evaluation procedure shall constitute questionable concrete, and core tests shall be made at no cost to the Owner in accordance with ACI Building Code 318, chapter 4, ASTM C42, and as directed by the Owner's representative. If core tests fail to demonstrate strength required by the contract documents, load tests shall be made in accordance with chapter 20 of the ACI Building Code 318. If concrete again fails to demonstrate strength required, the materials shall be removed and new materials provided. The Contractor shall pay all costs of the load test and all costs of corrective measures to make the work conform to the contract documents.
- C. The term "Building Official" in ACI Building Code 318 shall be interpreted to mean the Architect.

3.12 Corrective Work

A. Any careless or improper application of curing compounds, variations in finishing, curing, staining, marring or other damage from ensuring construction operations shall be corrected at no cost to the Owner.

B. Corrective work shall be performed in accordance with procedures and utilizing materials recommended by approved manufacturer. Corrective work shall produce a texture, color and finish which will match adjacent accepted surface as approved by the Owner's representative.

END OF SECTION

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SECTION 03350 - CONCRETE FINISHES

PART 1.00 - GENERAL

1.01 Related Work:

- A. Forming, mixing, and placing of concrete.

PART 2.00 - PRODUCTS

2.01 Sealer:

- A. Sealer shall be wax free, resin free and varnish free compound, which seals and hardens the concrete surface. Approved "Guardian Clear Bond".

2.02 Abrasive Aggregate:

- A. Abrasive aggregate shall be aluminum oxide or emery graded from particles retained on a #50 mesh screen to particles passed by a 1/8" screen.

PART 3.00 - EXECUTION

3.01 Patching:

- A. Concrete which is not formed as shown on the plans, or for any reason is out of alignment or level or shows a defective surface shall be considered as not conforming with the intent of these specifications and shall be removed from the job by the Contractor, at his or her expense, unless the Architect grants permission to patch the defective area, which shall be done in accordance with the following procedure. Permission to patch any such area shall not be considered a waiver of the Architect's right to require complete removal of the defective work if the patching does not, in his opinion, satisfactorily restore the quality and appearance of the surface.
- B. When patching is authorized by the Architect, it shall be performed in accordance with the provisions of paragraph 37, "Patching" of the Architectural Concrete Specifications, published by the Portland Cement Association, current edition.

3.02 Finishes On Formed Surface:

- A. Upon completion of patching, surfaces of concrete shall be finished as follows:
 1. Un-exposed concrete shall be left rough.
 2. Common Finish:
 - a. Confine common finish to exposed concrete surfaces in mechanical, electrical, and utility spaces, and areas shown or noted in finish schedule.
 - b. Strip forms at earliest time permitted by provisions of "Concrete Section". Strip only those forms on areas which can be immediately finished.
 - c. Produce common finish by filling smoothly all the holes and honeycomb areas and knocking off and evening up burrs.
 3. Smooth Rubbed Finish:
 - a. Provide smooth rubbed finish on vertical interior concrete exposed in the finish work, as indicated on finish schedule not to receive special textured concrete.

- b. Produce smooth rubbed finish as follows: Mix 1 part Portland cement and 1-1/2 parts fine sand with sufficient water to produce a grout having the consistency of thick paint. Wet the surface of the concrete sufficiently to prevent absorption of water from the grout and apply the grout with brushes or a spray gun uniformly, completely filling air bubbles and holes. Immediately after applying the grout, float the surface with a cork or other suitable float, scouring the wall vigorously. While the grout is still plastic, the surface shall be finished with a sponge rubber float removing all excess grout. This finishing shall be done at the time when grout will not be pulled from holes or depressions. Next allow the surface to dry thoroughly, then rub it vigorously with dry burlap to completely remove any dried grout. There shall be no visible film of grout remaining after this rubbing. The entire cleaning operation for any area must be completed the day it is started. No grout shall be left on the wall overnight. After an area has been grout cleaned, if any slightly dark spots or streaks remain they shall be wiped off lightly with a fine abrasive hone without using water but the rubbing with the hone shall not be sufficient to change the texture of the concrete. This final operation shall be included as a part of the smooth rubbed finish.

3.03 Unfinished Structural Slabs:

- A. Treat surfaces of structural slabs, not finished as walking surfaces or as support for resilient floor coverings as required by their intended use. Screed surfaces intended to receive cement setting beds for other materials to true planes and scraped free of a laitance or scum immediately thereafter, and roughen mechanically for bond as soon as they bear the weight of workmen. Scrub surfaces to receive setting beds before placing setting and broom a thin, neat cement grout onto the surface a short distance ahead of the fill.

3.04 Monolithic Cement Finish:

- A. Apply to the surface of concrete floor slabs as follows:
 1. Floors scheduled to receive resilient flooring, carpets, and all other floors, stairs, platforms or slabs scheduled or shown on the drawings to have steel troweled cement finish.
 2. Screed floor slabs to an even surface by the use of straightedge grade to obtain floor level within specified tolerances after initial deflection under dead load. This means that slab is to be screeded at a center span to a rise equal to specified camber of forms, ie., +/- 0 at columns and + value at center span to attain floor slab level within the specified tolerances after removal of forms. Float concrete with a wood float in a manner which will compact it and produce a surface free from depressions or inequalities of any kind. Floors shall be level with a tolerance of 1/8" in ten feet and shall slope no more than 1/4" except where drains occur in which case the floors shall be pitched to the drains as indicated on the drawings. After the concrete has hardened sufficiently to prevent fine materials from working to the top and allowed to stand until all water sheen has disappeared, steel trowel surface. Perform final troweling after the concrete is so hard that no mortar accumulates on the trowel and a ringing sound is produced as the trowel is drawn over the surface. The drying of the surface moisture before troweling must proceed naturally and must not be hastened by the dusting on the dry sand or cement. Perform patching required to bring slabs to specified tolerances using latex or epoxy modified Portland cement.

3.05 Sealer: (Ashford Sealer)

All interior slabs which serve as the finish floor shall be covered with one coat of liquid sealer compatible with curing compound specified in "Concrete" section. Liquid sealer shall be applied in accordance with the manufacturer's recommendations immediately before releasing the building to the Owner.

END OF SECTION

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SECTION 03600 - CONCRETE TESTING- NOTE: ALL TESTING COST TO BE PAID BY GENERAL CONTRACTOR

PART 1.00 - GENERAL

1.01 Description:

- A. Testing of concrete materials, proposed mix designs and resulting concrete. Testing Agency will be selected by the Contractor and paid for by the Contractor. Additional testing required because of deficiencies, or to verify the adequacy of a condition allegedly not built in accordance with contract documents, shall be performed at the expense of the Contractor under the direction of the Owner's representative.

1.02 Standard:

- A. Test in accordance with chapters 16, 17, and 18 of ACI 301 entitled, "Specifications For Structural Concrete For Buildings", except as otherwise indicated.

1.03 Qualifications Of Testing Agency:

- A. The testing agency shall meet the requirements of ASTM E329, entitled "Tentative Recommend Practice For Inspection And Testing Agencies For Concrete Steel As Used In Construction". The testing agency shall perform the following:
 - 1. Check concrete materials for compliance with specifications and report results along with recommendations to Architect.
 - 2. Sample concrete at job site and prepare compression test specimens, test for slump, air content, and unit weight as required by specifications.
 - 3. Place concrete test specimens in designated locations after casting.
 - 4. Transport test specimens to laboratory and perform compression tests according to specifications. Report results on field data sheet to Owner's representative immediately of any test specimens that do not meet design strength at 28 days or 70% of design strength at 7 days.
 - 5. Complete field test data sheet for each set of concrete test specimens. The completed data sheet shall show all information required by ACI specifications. Include: laboratory number, date, plant, truck number, time batched, time sampled, air temperature, concrete temperature, inspector, mix design number, required strength, unit weight, air content, slump, location of placement, 7 day and 28 day strength.

1.04 Record Documents:

- A. Testing agency shall distribute copies of test report to:
 - 1. One (1) copy to Owner's representative.
 - 2. One (1) copy to Contractor.
 - 3. One (1) copy to Concrete Supplier.

PART 2.00 - PRODUCTS

2.01 Items Provided By Testing Agency:

- A. Maintain supplies, apparatus, tools and devices at job site to obtain specimens and perform on-site tests as indicated. Provide not less than the following:
 - 1. Molds for compression test specimens.
 - 2. Slump cones with rod for slump test.

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3. Scale and unit weight measure.
4. Appropriate air meters.
5. Concrete thermometer.

2.02 Items Provided By Contractor:

- A. Provide stable, lockable storage box thermostatically controlled to maintain temperature between 60 and 80 degrees Fahrenheit for storage of cylinders for first 24 hours after molding. Box shall be a minimum of 40 cubic feet. Locate box in a permanent lockable area of approximately 100 square feet. Limit access to laboratory personnel and Contractor's superintendent.

PART 3.00 - EXECUTION

3.01 Notification:

- A. Notify testing agency not less than 24 hours in advance of placing concrete to enable agency to have technician available for conducting tests and obtaining specimens.

3.02 Design Mixes:

- A. Verify proposed design mixes and report recommendations to Owner's representative in accord with ACI 318, chapter 4.

3.03 Compression Tests:

- A. Test specimens in accordance with all applicable ASTM Standards. At the job site, prepare cylinders for testing and perform required tests on concrete. Four cylinders shall be made for each sample of concrete to be tested; one to be broken at 7 days for information and two at 28 days for strength compliance. Hold one cylinder for 56 days. For frequency, see 3.09.

3.04 Core Tests:

- A. Core tests, at Contractor's expense, shall be required whenever concrete fails to meet the "Acceptance of Concrete" criteria as described in Concrete Section. Cores shall be taken under the direction of the Owner's representative. Criteria for acceptance of cores shall be as described in ACI 318, section 4.7.4.4. Additional core tests, at Contractor's expense, may be required by the Architect whenever other requirements of these specifications are not compiled with fully.

3.05 Load Tests:

- A. Perform, at Contractor's expense, when core testing is inconclusive or impracticable. Evaluate load tests in accordance with ACI 318, 301.

3.06 Test For Air Content:

- A. Perform each time a set of cylinders prepared for compression testing. Test in accordance with ASTM C231.

3.07 Slump Test:

- A. Perform each time a set of cylinders prepared for compression testing. Test in accordance with ASTM C143.

3.08 Shrinkage Test:

- A. Perform only if directed by the Owner's representative.

3.09 Frequency of Testing:

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- A. Take samples for strength tests for each class of concrete not less than once each placement, each 5,000 square feet of surface area, of the following:

<u>Class of Concrete</u>	<u>Frequency of Testing</u>
A	50 cubic yard
B	50 cubic yard
C	50 cubic yard

3.10 Additional Testing:

- A. Perform testing of materials, other than concrete, to determine compliance with contract documents when directed by the Owner's representative. Contractor shall furnish samples and deliver them to testing agency's laboratory.

END OF SECTION

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SECTION 04201 - UNIT MASONRY

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Installers:

1. For actual erection of unit masonry, use only skilled journeyman masons who are thoroughly experienced with the materials and methods described and thoroughly familiar with the design requirements of this work.
2. In acceptance or rejection of installed unit masonry, no allowance will be made for lack of skill on the part of workmen.
3. Provide one skilled journeyman mason who shall be present at all times during execution of the work of this section and who shall personally direct the execution of this portion of this work.

1.02 Definitions:

- A. Face Brick: Clay masonry units which will be exposed to view in finish work; brick scheduled to receive paint finish shall be considered face brick.
- B. Special Shaped Brick: Clay masonry units requiring special molding in order to produce the required size and/or shape; units which can be "job-cut" to the required size and/or shape are not considered special shaped brick; wherever special shaped brick are called for on the drawings, job cut units will not be acceptable.
- C. Building Brick: Clay masonry units which will not be exposed to view in finish work.
- D. Solid Brick: Clay masonry units with no holes or frogs.

1.03 Submittals:

- A. Samples: Before any products of this section are delivered to the project site, submit to the Architect for review, samples of the following:
 1. Face Brick: Minimum seven brick panel using full size brick for each type of face brick described hereinafter, showing full color range.
 2. Solid Brick: Full size for each type described hereinafter.
 3. Hollow Concrete Masonry Units: Full size in each thickness for each type.
 4. Masonry Reinforcement: Full size x 24" long for each type including prefabricated corners and tees.
 5. Wall Ties: Full size for each type described hereinafter.
 6. Special Shaped Brick: Full size for each shape.
- B. Manufacturer's Data: Accompanying the sample submittals, furnish manufacturer's descriptive literature and specifications and installation instructions for the following:
 1. Masonry Reinforcement

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C. Manufacturer's Certification: Accompanying the sample submittals, furnish three copies of the manufacturer's certification that all products furnished by them for use in this work meet the requirements of this section.

D. Mock-Up:

1. After review of the samples, but prior to commencing unit masonry operations, construct on the project site, at location selected by the Architect, a sample panel approximately 4'-0" high x 6'-0" long x 1'1" thick.
2. The sample panel shall be typical of exterior wall veneer and shall show coursing, bond, joints, extremes in color and texture of the masonry units.
3. Upon the Architect's approval of the sample panel, unit masonry work may commence.
4. The sample panel shall remain in place and be used as a guide until all unit masonry work is complete, and until its removal is approved by the Architect.

1.04 Product Handling:

A. Delivery and Storage:

1. Cementitious materials and masonry reinforcement shall be delivered to the project site in manufacturer's original, unopened packaging with labels intact.
2. Cementitious materials and metal items shall be stored in a housed, dry and ventilated area on a platform at least 12" above ground or floor.
3. Sand shall be stored on heavy canvas, sisalkraft or extruded vinyl sheeting and not allowed to mix with the earth it rests upon.

1.05 Job Conditions:

Erect no masonry unless the ambient temperature is at least 40°F and rising.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Face Brick: To match existing in size, texture, color, and coursing. (*Not Used*)
- B. Special Shaped Brick: See Drawings.
- C. Solid Brick: shall be same as face brick and shall be same in full color range.
- D. Building Brick: All building brick shall be No. 2 face brick meeting requirements of ASTM C62-69, Grade SW.

E. Exterior Face Veneer Hollow Concrete Masonry Units: (*Not Used*)
Design is based on split face, Type AA-1, 8" x 16" x thickness shown on drawings, hollow concrete masonry units, except 4 inch thick units shall be solid, as manufactured by Masonry Products, Carrollton, GA. Provide integral water-repellant system for use in split face block, meeting ASTM E 514-74 Water Repellency Standard and use Dry-Block Water Repellent Mortar Admix System in the mortar. Exterior face veneer hollow concrete masonry units to be with manufacturer's standard colors, to be selected by Architect. Colors shall include creme and white colored blocks even if they are not standard with manufacturer. Provide sealer and paint coating to match existing.

F. Below Grade Hollow Concrete Masonry:

Hollow concrete masonry for use below grade and where exposed to weather, other than exterior face veneer hollow concrete masonry shall be normal weight, Type 1, Grade N-1 and manufactured to meet ASTM C90-75.

G. Interior Hollow Concrete Masonry:

1. Hollow concrete masonry for use above grade and where exposed to view in the finished work shall be normal weight, Type 1, Grade S-1, manufactured to meet requirements of ASTM C90-75 and where called for on the drawings bear Underwriter's Laboratories, Inc. labels as follows:
 - a. 6" thick unit: 1 hour
 - b. 8" thick unit: 2 hour
2. Bull nose units shall be provided for all out corners, at window jambs and at other locations called for on the drawings.
3. In lieu of the above ratings (Article 2.01, G, a) fire-resistant units may be furnished on the basis of a written certification from the masonry manufacturer stating specifically that all units to be furnished are equivalent in fire rating to those furnished by producers listed in the Underwriter's Laboratories Building Material List.

H. Acoustical Concrete Masonry Units: Omitted

I. Masonry Reinforcements:

1. Type 1: Design is based on Dur-O-waL, 2 rod, truss type, with cavity drip, reinforcement as manufactured by Dur-O-waL, Inc., Birmingham, Alabama, fabricated from No. 9 deformed rods, with preformed corners and tees; reinforcement shall be hot-dip galvanized after fabrication in accordance with ASTM A153, Class B-2 (1.50 oz. zinc coating).
2. Type 2: Omitted
3. Type 3: Design is based on Dur-O-WaL, 2 rod, truss type reinforcement as manufactured by Dur-O-WaL, Inc., Birmingham, Alabama, fabricated from No. 9 deformed rods, with prefabricated corners and tees; reinforcement shall have bright basic finish.

J. Wall Ties: #DW10, See Detail 1/A9-1.

- K. Masonry Mortar:
1. All masonry mortar shall conform to the requirements of ASTM C270-84, Property Specification, Type M, and Type S for use as described hereinafter.
 2. Masonry cement used to produce the specified mortar types shall be premixed, consisting of Portland cement, masonry cement and hydrated lime or lime putty, and shall be of one manufacturer.
 3. Masonry mortar used with face brick shall match existing color & tooling as much as possible. Split face block mortar shall match the color of split face block as much as possible with tooling flush with face split base.
 4. For all mortar on this project provide **DRY BLOCK WATER REPELLANT MORTAR ADMIX SYSTEM.**
- L. Sand: shall be white and shall conform to the requirements of ASTM C144-84.
- M. Water: All water shall be clean and potable.
- N. Portland Cement: shall conform to the requirements of ASTM C150-85 and be of one manufacturer.
- O. Aggregate of Cement Grout: Aggregate for cement grout shall be fine aggregate conforming to ASTM C404-70.
- P. Color Pigment:
1. For Exterior Face Brick: To match existing mortar color.
 2. For Exterior Face Veneer Hollow Concrete Masonry: Mortar shall be colored to match the color of the hollow concrete masonry units; (To be a white mortar).
- Q. Non-Shrink Grout: Non-shrink grout shall be one of the following:
1. SonogROUT as manufactured by Sonneborn Bldg. Prod., Minneapolis, MN.
 2. Supreme as manufactured by Gifford-Hill and Co., Inc. Charlotte, NC.
 3. No. 588 as manufactured by W.R. Meadows, Inc., Elgin, IL.
- R. Cleaning Solution For Clay Masonry Units: All clay masonry cleaner shall be Sure Kleen No. 600 as manufactured by Pro So Co., Inc., Kansas City, KS.
- 2.02 Measurement and Mixing of Materials For Masonry Mortars:
- A. General: Unless otherwise specifically noted, all mortars shall be mixed in a power mixer, adding 1/2 the sand and water to the mixer, followed by the entire amount of masonry cement, mixing for approximately 3 minutes, followed by adding the balance of the sand and water; continue mixing for not more than five minutes nor less than three minutes after all materials are in the mixer.
- B. Detailed Requirements:
1. Masonry Mortars:
 - a. Type 1: Proportioned to produce a Type M mortar complying with ASTM C270.
 - b. Type 2: Proportioned to produce a Type S mortar complying with ASTM C270.

- c. Type 1 and Type 2 masonry mortars shall be tinted where used with face brick and with face veneer hollow concrete masonry units.
2. Pointing Mortar: By volume one part non-staining cement, two parts white sand, and sufficient lime or lime putty to make as stiff a mixture as can be worked; prepare one to two hours before using and do not retemper; pigment shall be added as required to match adjacent mortar where exposed to view in finish work.
3. Cement Grout: by volume in accordance with ASTM C476-83 as follows: One part Portland Cement and one-tenth part lime to aggregate proportioned at not less than two and one-fourth to three times the sum of volumes of cementitious materials used.
4. Non-Shrink Grout: Mix prepared product with water as directed by its manufacturer to give a minimum compressive strength of 6,800 psi at 28 days.

PART 3.00 - EXECUTION

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements:

1. Cutting Wheel: Prior to commencing masonry work, a power operated carborundum cutting wheel shall be set up on the site and used for cutting off-sets, cut-outs, miters and for sizing units.

2. Layout:

- a. Horizontal coursing shall be carefully laid out, as shown on the drawings; lay up one course of unit masonry so that masonry jamb lines for all openings can be accurately located and marked on footing top and/or floor slab; after all guide lines and bond dimensions have been thus established, permanent work may then commence.
- b. Vertical coursing, as shown on the drawings shall be adhered to; use story pole, carefully marked with all courses to maintain uniformity.

B. Precautionary Measures:

1. Cold Weather Erection:

- a. No masonry shall be erected when temperature is below the established minimum.
- b. Masonry shall be protected from freezing for at least 48 hours after it is in place.
- c. No frozen materials shall be built upon or allowed to remain in the wall, but shall be removed or reconstructed.

2. Hot Weather Erection:
 - a. Do not wet concrete masonry units.
 - b. If suction due to dryness of concrete masonry units is excessive, use high water-retentive mortar.
 3. Protection of Unit Masonry During Erection:
 - a. Scaffolding shall be so constructed as to permit mortar cement droppings to fall clear of wall.
 - b. At end of each work period and at the stoppage of work at any time, install non-staining tarpaulins or heavy gauge, untorn, plastic membrane across top.
 - c. Care shall be exercised at all times not to smear mortar on face of unit masonry work, and no mortar shall be allowed to drop in cavity between face material and back-up material.
- C. Laying Unit Masonry:
1. General:
 - a. Unit masonry shall be laid true to line, level, and plumb, except as otherwise shown on drawings.
 - b. Coursing shall continue, unbroken, above and below openings unless otherwise shown.
 - c. Joints shall be filled solid with mortar as each course is laid.
 - d. Do not use chipped or broken units.
 2. Mortars:
 - a. Lay above grade masonry in Type M mortar.
 - b. Lay below grade masonry in Type S mortar.
 3. Masonry Joints:
 - a. Joints in exposed to view masonry shall be a uniform 3/8" wide and tooled to match existing as much as possible.
 - b. Joints in exterior face veneer hollow concrete masonry shall be a uniform 3/8" wide and struck "flush" with the face of the masonry units.
 - c. Joints in unexposed to view masonry shall be a uniform 3/8" wide and struck "flush" with the face of the masonry units, except:
 - d. Joints in areas scheduled to receive setting beds or plaster shall be uniform 3/8" wide, raked and left rough.
 4. Masonry Bond: Unless specifically shown otherwise on the drawings, all unit masonry shall be laid in "common running bond" (to match existing).
 5. Joint Reinforcement:
 - a. Install masonry reinforcement every 16" o.c. vertically and in the top course.

- b. Wall openings shall be reinforced in the first two courses above and in the first course below, and shall extend not less than 12" past each jamb.
 - c. At splice point, lap reinforcement 6" minimum.
6. Wall Ties: Install wall ties at 24" on centers horizontally-and at 16"o.c. vertically where called for on the drawings.
 7. Miscellaneous Built-In Items: Miscellaneous built-in items such as angle lintels, flexible flashings, anchors, frames and all other items called for in other sections of this project manual or on the drawings shall be accurately installed as the masonry work progresses.
 8. Weep Holes: Where flexible thru-wall flashing occurs, install in the same joint a cut of #3 cotton twine, 4" long at 24" intervals; cut twine flush with mortar joint in face brick. Provide on all exterior walls even if not shown on the drawings.
 9. Hollow Metal Frames: Where hollow metal frames occur in unit masonry work, fill head and jambs solid with mortar unless otherwise noted on the drawings.
 10. Anchoring of Items to Masonry Units: Where items are shown on the drawings or described in other sections of this project manual to be anchored through the masonry units, unless otherwise specifically noted, fill two cells above and one cell below with 3,000 psi concrete as described in Section 03301 of this project manual; hold concrete in place with standard galvanized hardware cloth.

3.03 Field Quality Control:

A. General: See Article 3.02, B of this section.

B. Cleaning:

1. Face Brick:

- a. After laying and as soon as practical, brush wall down with soft bristles brush (metal bristles not allowed).
- b. A final cleaning shall take place after all masonry is complete using the specified cleaner, applied in strict accordance with the manufacturer's recommendations.
- c. Use all means necessary to protect adjacent work and materials from damage during cleaning operations.
- d. Should damage occur, make all repairs or replacements necessary to the approval of the Architect and at no additional cost to the Owner.

2. Hollow Concrete Masonry:

- a. Mortar droppings which stick to hollow concrete masonry shall be allowed to dry before removing with trowel.

- b. Remaining mortar shall be removed by brushing down with dry fiber brushes (metal bristles not allowed) and/or rubbing with small piece of concrete masonry.
- C. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 05501 - METAL FABRICATIONS

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Industry Standards:

1. Some products and execution are specified in this section by reference to published specifications or standards (with respective abbreviations used); these referenced publications may be subject to special conditions or limitations where specified hereinafter.
2. Reference Publications:
 - a. The American Society for Testing & Materials (ASTM).
 - b. Federal Specifications (FS).
 - c. Code for "Welding in Building Construction" by American Welding Society (AWS).

B. Qualifications of Fabricator:

The fabricator of the products of this section shall have been engaged in the business of metal fabrication for a period of not less than five years immediately prior to commencing fabrication of the items hereinafter described or shown on the drawings.

C. Qualifications of Welders:

All welding shall be done only by welders certified in accordance with the procedures of Standard B 3.01 of AWS.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Prior to commencing fabrication of the products of this section, submit one set of sepias and two sets of bluelines in accordance with section 01301.

C. Manufacturer's Data:

Accompanying the shop drawing submittal, submit to the Architect for review, manufacturer's descriptive and specification data for each manufactured item shown on the drawings or described hereinafter.

D. Certificate of Welders:

Prior to commencing installation of any work of this section, furnish an affidavit to the Architect stating that all welders employed in the execution of this portion of the work have been previously qualified in accordance with Article 1.01 of this section.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Structural Steel:

1. Shapes, Bars and Plates:

All structural steel shapes, bars and plates shall meet requirements of ASTM A36-84.

2. Tubing:

All structural steel tubing shall meet requirements of ASTM A500-84.

B. High Strength Bolts, Nuts and Washers:

All high strength bolts, nuts and washers shall meet requirements of ASTM A325-84.

C. Other Bolts, Nuts and Washers:

All other bolts, nuts and washers shall meet requirements of ASTM A449-84.

D. Expansion Shields:

Expansion shields shall be of the sizes shown on the drawings and meet the requirements of federal specification FF-S-325.

E. Toggle Bolts:

Toggle bolts shall be of the sizes shown on the drawings and meet the requirements of federal specification FF-B-588.

F. Checkered Plate: **(NOT USED)**

Checkered plate shall be 14 gauge steel.

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G. Electrodes:

1. Electrodes shall be mild steel arc welded electrodes conforming to requirements of ASTM A233.
2. Electrodes for manual shielded arc welding shall be E70.18, subject to provisions as hereinafter described.
3. Electrodes for automatic inert gas shielded arc welding shall be No. 70.
4. Electrodes for automatic submerged arc welding shall SAW-2.
5. Electrodes used in both shop and field shall be kept warm and dry after the seal is broken on the original container and shall not be used if exposed to atmospheric conditions for more than one hour.

H. Pipe: shall be standard weight of diameters shown on the drawings.

I. Anchoring Grout:

All anchoring grout shall be "Por-Rok" as manufactured by Sterling Drug, Inc., Montvale, NJ.

J. Shop and Field Primer Paint:

All shop and field primer paint shall be one of the following:

1. Tnemec 99 red metal primer as manufactured by Tnemec Company.
2. Rust-Oleum 769 damp-proof red primer as manufactured by Rust-Oleum Corp.
3. Southern Coatings RIP476 as manufactured by Southern Coatings and Chemical Company.

2.02 Fabrication:

A. General:

Fabricate all metal items, including but not necessarily limited to angle brackets for counters and strap anchors for masonry to the designs shown on the drawings and from the materials indicated thereon; all welds shall be ground smooth.

B. Shop Cleaning and Priming:

1. All ferrous metal items shall be thoroughly cleaned at the shop after fabrication and given one shop coat of paint.
2. Dry film thickness of shop paint shall be two mils.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. General:

1. Work shall be erected plumb and true in relation to adjoining work unless otherwise shown.
2. The setting of items to be built into concrete or masonry work is included in their respective sections; the erection of all other items are included herein.
3. Fastening shall be concealed where shown on the drawings.
4. Joints exposed to weather shall be formed to exclude water.
5. Provide holes and connections for the work of all other trades.
6. Use toggle bolts for anchoring into concrete masonry unless noted otherwise.
7. Use metal shields for expansion bolts and screws; steel drive bolts of same size as noted for expansion bolts, with split shank, closed ends, with threads at one end may be substituted for expansion bolts into concrete.

B. Welding:

All welding shall be done in accordance with the referenced standards using shielded arc electrodes.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Touch-Up Priming:

After installation is complete, touch-up all shop priming coats damaged during transportation and installation and prime all field welds, using the priming paint specified for shop painting.

END OF SECTION

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SECTION 05521 - PIPE AND TUBE HANDRAILS AND RAILINGS

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Industry Standards:

1. Some products and execution are specified in this section by reference to published specifications or standards (with respective abbreviations used); these referenced publications may be subject to special conditions or limitations where specified hereinafter.

2. Reference Publications:

- a. The American Society for Testing & Materials (ASTM).
- b. Federal Specifications (FS).
- c. Code for "Welding in Building Construction" by American Welding Society (AWS).

- B. Qualifications of Fabricator: The fabricator of the products of this section shall have been engaged in the business of metal fabrication for a period of not less than five years immediately prior to commencing fabrication of the items hereinafter described or shown on the drawings.

- C. Qualifications of Welders: All welding shall be done only by welders certified in accordance with the procedures of Standard B 3.01 of AWS.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Prior to commencing fabrication of the products of this section, submit to the Architect for review fabricator's shop drawings for each fabricated metal item shown on the drawings or described hereinafter.

C. Manufacturer's Data:

Accompanying the shop drawing submittal, submit to the Architect for review, manufacturer's descriptive and specification data for each manufactured item shown on the drawings or described hereinafter.

D. Certificate of Welders:

Prior to commencing installation of any work of this section, furnish an affidavit to the Architect stating that all welders employed in the execution of this portion of the work have been previously qualified in accordance with Article 1.01 of this section.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.
- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Steel Pipe: Standard weight of the outside diameter (O.D.) as indicated on the drawings or described hereinafter.
- B. Steel Tube: Size and gauge as indicated on the drawings or described hereinafter.
- C. Aluminum Pipe: 1-1/4" nominal size, wall thickness of 0.140 inch and weighing 0.785 pound per lineal foot with clear anodized finish.
- D. Wall Brackets:
 - 1. Steel:

Design is based on No. 306, Malleable Iron, as manufactured by Julius Blum & Co., Inc., Carlstadt, NJ
 - 2. Aluminum:

Design is based on No. 321, to receive paint, as manufactured by Julius Blum & Co., Inc., Carlstadt, NJ, with clear anodized finish.
- E. Woven Wire Mesh: shall be not less than 10 gauge in 1-1/2" diamond pattern.
- F. Accessories: Provide matching end terminals, as shown on the drawings, for all rails.
- G. Bolts: Sizes as required in material compatible with items with which used.
- H. Expansion Shields: Sizes as required for bolt with which they are used and meeting the requirements of Federal Specification FF-S-325.
- I. Anchoring Grout: "Por-Rok" as manufactured by Sterling Drug, Inc., Montvale, NJ.
- J. Shop and Field Primer Paint:

All shop and field primer paint shall be one of the following:

 - 1. Tnemec 99 red metal primer as manufactured by Tnemec Company.
 - 2. Rust-Oleum 769 damp-proof red primer as manufactured by Rust-Oleum Corp.
 - 3. Southern Coatings RIP476 as manufactured by Southern Coatings and Chemical Company.

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2.02 Fabrication:

- A. General: Fabricate all handrails and railings to the designs shown on the drawings and from the materials indicated thereon; all welds shall be ground smooth.
- B. Shop Cleaning and Priming:
 - 1. All ferrous metal items shall be thoroughly cleaned at the shop after fabrication and given one shop coat of paint.
 - 2. Dry film thickness of shop paint shall be two mils.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. General:
 - 1. Work shall be erected plumb and true in relation to adjoining work unless otherwise shown.
 - 2. The setting of items to be built into concrete or masonry work is included in their respective sections; the erection of all other items are included herein.
 - 3. Fastenings shall be concealed where shown on the drawings.
 - 4. Bolts or nuts exposed to view is finish work shall be hex.
- B. Post Mounted Handrails: Install in the locations shown on the drawings and in accordance with the details shown thereon.
- C. Wall Mounted Handrails: Install in the locations shown on the drawings, using wall brackets as shown; space brackets as shown on the drawings, but in no case more than 48 inches on centers; attach handrail to brackets as indicated with screws from under side.
- D. Welding: All welding shall be done in accordance with the referenced standards using shielded arc electrodes.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Touch-Up Priming:

After installation is complete, touch-up all shop prime coats damaged during transportation, storage and installation and prime all field welds, using the prime paint specified for shop priming.

END OF SECTION

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SECTION 05723 - SAFETY NOSINGS

PART 1.00 - GENERAL

1.01 Quality Assurance:

The products of this section shall be installed by skilled mechanics who are thoroughly familiar with the products described hereinafter, their installation and the requirements of this work.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Shop Drawings:

Prior to commencing fabrication of the products of this section, submit manufacturer's shop drawings to the Architect for review, fully dimensioned, showing actual field measurements and showing method of installation and anchorage.

B. Samples:

Accompanying the shop drawing submittal, submit samples for each type of safety nosing described hereinafter, full size x 6" long.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Coordinate installation with placement of concrete.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Safety Nosings:

1. Type 1:

a. Design is based on type WP4 as manufactured by Wooster Products, Inc., Wooster, OH.

b. Grit colors will be selected by Architect from manufacturer's standard colors.

2. Type 2:

a. Design is based on type 241 as manufactured by Wooster Products, Inc., Wooster, OH.

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- b. Grit colors will be selected by Architect from manufacturer's standard colors.
- 3. Type 3:
 - a. Design is based on type 431 as manufactured by Wooster Products, Inc., Wooster, OH.
 - b. Grit colors will be selected by Architect from manufacturer's standard colors.
- 4. Type 4:
 - a. Design is based on type 242 as manufactured by Wooster Products, Inc., Wooster, OH.
 - b. Colors will be selected by Architect from manufacturer's standard colors.

2.02 Fabrication:

Safety nosings shall be fabricated to the designs described hereinbefore, of proper lengths as required by the drawings and from materials and in accordance with the published specifications of their manufacturer.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

Safety nosings shall be installed in the locations shown on the drawings, in accordance with their manufacturer's installation instructions and the following:

- A. Type 1 Nosing: Install at cast-in-place concrete where carpet is scheduled.
- B. Type 2 Nosing: Install at cast-in-place concrete where treads remain exposed concrete with broom finish.
- C. Type 3 Nosing: Install at cast-in-place concrete where non-slip resilient treads are scheduled.
- D. Type 4 Nosing: Install at metal pan stairs where non-slip resilient treads are scheduled.

3.03 Field Quality Control:

- A. Protection:
 - 1. Use protective coverings as recommended by the nosing manufacturer to prevent damage to safety nosing after installation.
 - 2. Remove just prior to final inspection and clean as recommended by the manufacturer.

B. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 05800 - EXPANSION CONTROL DEVICES

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Manufacturer:

The manufacturer of the products of this section shall have been successfully engaged in their manufacture for a period of not less than five years immediately prior to furnishing the products of this section.

B. Qualifications of Installers:

Installation of the products of this section shall be accomplished only by skilled workmen, experienced in the installation of the products described hereinafter, the installation instructions of the manufacturer of the products being installed and who are completely familiar with the requirements of this portion of the work.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Before any products of the section are delivered to the product site, submit to the Architect for review, manufacturer's shop drawings for each type of expansion control device or product described hereinafter, fully dimensioned and showing their relationship to other work and the method of anchorage.

C. Manufacturer's Data:

Accompanying the shop drawing submittal, furnish the Architect for review, manufacturer's detailed materials and fabrication data.

D. Samples:

In addition to the manufacturer's data and accompanying same, submit samples for each type of expansion control device or product described hereinafter, samples shall be full size x 12".

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Roof Expansion Control Devices:

Coordinate the installation of the roof expansion control devices with the installation of the roofing system.

B. Interior Expansion Control Devices:

Expansion control devices which go on walls shall not be installed until painting and other wall finishes are complete.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Roof Expansion Control Devices:

1. Type 1: Design is based on LPR-210, expansion joint cover as manufactured by Metalines, Inc., Oklahoma City, OK.
2. Type 2: Design is based on LPR-215, expansion joint cover as manufactured by Metalines, Inc., Oklahoma City, OK.

B. Interior Expansion Control Devices:

1. Type 1: Design is based on UP-10, expansion joint cover as manufactured by Metalines, Inc., Oklahoma City, OK.
2. Type 2: Design is based on UQ-10, as manufactured by Metalines, Inc., Oklahoma City, OK.
3. Type 3:
Design is based on GL-600, as manufactured by Metalines, Inc., Oklahoma City, OK.

C. Metal Water Stops: Metal for water stops shall be 16 oz. cold rolled copper.

D. Fastening Devices:

1. For use with manufactured aluminum products, fastening devices shall be by manufacturer of the aluminum product being installed.
2. For use with copper items, nails, rivets, screws, expansion inserts, bolts and similar items shall be best grade hard copper or copper alloy of proper size and type for each application.

2.02 Fabrication:

A. Manufactured Expansion Control Devices:

Manufactured devices shall be fabricated to the designs, from the materials and in accordance with their manufacturer's published material and fabrication specifications.

B. Metal Water Stops:

Fabricate metal water stops to form a "T" unless otherwise shown on the drawings, from copper as described hereinbefore, with 3-3/4" stem and 4" wings; each wing to have a 1/4" folded edge.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Roof Expansion Joint Covers:

1. Install where shown on the drawings and in accordance with the details shown thereon and the manufacturer's printed instructions.
2. Type 1 cover is to be installed at roof to roof condition and
3. Type 2 cover is to be installed at roof to wall condition.

B. Interior Expansion Joint Covers:

1. Install where shown on the drawings and in accordance with the details shown thereon and the manufacturer's printed instructions.
2. Type 1 cover is to be installed on walls where faces are in the same plane and
3. Type 2 cover is to be installed on walls where expansion joint occurs at an in-corner.

C. Metal Water Stops:

1. Install within the exterior perimeter walls where called for on the drawings, in accordance with the details shown thereon and in lengths not exceeding 8 feet.
2. Each joint shall be lapped not less than 4" in direction of flow.
3. Attach to masonry with nails and to metal with screws spaced not more than 12" on centers.
4. Set both wings in full bed of type 1 sealant as described in Section 07900 of this project manual.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

- B. Protection: After installation of interior expansion control devices, keep expansion joint covers covered with non-staining tape or paper masked in place.
- C. Cleaning: Just prior to final inspection, remove all maskings and clean all exposed to view surfaces as recommended by the manufacturer.

END OF SECTION

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SECTION 06101 - ROUGH CARPENTRY

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Industry Standards:

1. Some products and execution are specified in this section by reference to published specifications or standards (with respective abbreviations used); these referenced publications may be subject to special conditions or limitations where specified hereinafter.

2. Referenced Publications:
 - a. Southern Pine Inspection Bureau (SPIB).
 - b. Federal Specifications (FS).
 - c. American Wood Preservers Association (AWPA).
 - d. American Plywood Association (APA).

B. Grade Mark:

All lumber and plywood shall bear the grade mark as described hereinafter.

1.02 Definitions: Omitted.

1.03 Submittals: Omitted.

1.04 Product Handling:

A. Protection:

1. Protect materials and products of this work from damage before, during and after delivery to the project site, and after installation into the work.

2. Deliver the materials to the project site and store in a safe area, out of way of traffic and shored up off the ground surface.

3. Store materials in such a manner as to insure proper ventilation and drainage and to protect against damage from weather.

4. Store lumber that has been treated with fire retardant chemical in a housed, dry and ventilated area.

5. Identify all framing lumber as to grades and store all grades separately from other grades.

6. Keep all material clearly identified with all grade marks legible; keep all damaged material clearly identified as damaged, and separately store to prevent its inadvertent use.

7. Do not allow installation of damage or otherwise non-complying material.

8. Protect all metal products with adequate water proof outer wrappings.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Framing Lumber: All framing lumber shall be SPIB grade marked No. 2 Southern Yellow Pine, kiln dried, with not more than 19 percent moisture content.
- B. Insulated Sheathing: Omitted.
- C. Miscellaneous Lumber: Lumber for blocking, furring, roof curbs, roof edges and other miscellaneous items shall be SPIB grade marked No. 2 Southern Yellow Pine, kiln dried, with not more than 19 percent moisture content.
- D. Plywood:
 - 1. Exterior:
Unless otherwise shown on the drawings, exterior plywood shall be AWI 200G10 fabricated with type 1 adhesives, softwood veneer surfaces, (AWI 200S-5, grade A-C); plywood shall be thickness shown on the drawings.
 - 2. Subfloor:
Plywood used for subflooring shall be C-C EXT-APA, group 1, tongue and grooved long edges and shall be 3/4" thick.
 - 3. Underlayment:
Plywood used for underlayment for carpet or resilient floor covering shall be C-C EXT-APA, UNDERLAYMENT, group 1, tongue and grooved long edges and shall be 3/4" thick.
- E. Nails:
 - 1. For application to wood, nails shall be annular thread, coated steel of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-105.
 - 2. For application to concrete or masonry, nails shall be smooth shank, hardened steel, with counter-sunk heads, of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-105.
- F. Bolts and Screws: shall be of the sizes and types shown on the drawings.
- G. Framing Accessories: Omitted.
- H. Wood Preservative: Wood preservative used for chemically treating lumber used in this portion of the work shall be "Osiose K-33" as manufactured by Osiose, Buffalo, NY.
- I. Fire Retardant: Fire retardant chemical used for treating lumber in this portion of the work shall be "Osiose Flame Proof" as manufactured by Osiose, Buffalo, NY.

2.02 Fabrication:

- A. Rough Carpentry: Fabricate all framing, furring, blocking, roof curbs, roof edges and other miscellaneous items from lumber as described hereinbefore and to the designs shown on the drawings.
- B. Chemical Treatment of Lumber:

All lumber and fabricated wood items that will be in contact with concrete slabs on grade, masonry or used in conjunction with the roofing systems, shall be treated with the specified chemical in strict accordance with AWPA Standard P-5; retention shall be in accordance with AWPA Standards C1, C2 and C9; after treatment and before delivering of any treated materials or products to the project site, reduce moisture content of the treated material to a maximum of 19 percent.

C. Fire Retardant Treatment:

All wood noted on the drawings as "fire treated" shall be treated with the specified chemical and shall bear UL FR-S labels indicating that the treated products meet the following as determined by ASTM E-84:

1. Flame Spread: 25 or less
2. Fuel Contributed: 25 or less
3. Smoke Developed: 25 or less

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Workmanship:

All rough carpentry shall produce joints that are true, tight, well fastened and with all members assembled in accordance with the drawings.

B. Selection of Lumber Pieces:

1. Carefully select all members; select individual pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing or making proper connections.
2. Cut out and discard all defects which will render a piece unable to serve its intended function; lumber may be rejected by the Architect, whether or not it has been installed, for excessive warp, twist, or bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

C. Shimming: Do not shim sills, joists, short studs, trimmers, headers, lintels or other framing components.

D. General Framing:

1. In addition to all framing operations normal to the fabrication and erection indicated on the drawings, install all backing required for the work of other trades.
2. Set all horizontal or sloped members with crown up.
3. Do not notch, bore or cut members for pipes, ducts, conduits or other reasons except as shown on the drawings or as specifically approved in advance by the Architect.

4. Install miscellaneous items for which the rough carpenter trade is customarily responsible, such as "Template" setting of anchor bolts, providing frames for openings through concrete and/or masonry, insertion of hangers for suspended ceilings and like items.
5. Make all bearings full unless otherwise indicated on the drawings.
6. Finish all bearing surfaces on which structural members are to rest so as to give sure and even support; where framing members slope, cut or notch ends as required to give uniform bearing surface.
7. Install all blocking, furring plaster grounds and similar items as shown on the drawings.
8. Install roof edges and curbs in the locations shown on the drawings and in accordance with the details shown thereon.

E. Insulated Sheathing: Omitted.

F. Laying of Subfloors and Underlayments:

Subfloors and underlayments should be installed in locations shown on the drawings in strict accordance with the standard specifications of American Plywood Association's publication: "Plywood, Commercial / Industrial Construction Guide"; November, 1976 edition.

G. Nailing:

Using only the specified nails; do all nailing without splitting wood members, preboring as required; replace all split members.

H. Bolting:

1. Drill holes 1/16" larger in diameter than the bolts being used; drill straight and true from one side only.
2. Bolt threads must not bear on wood; use washers under head and nut where both bear on wood; use washers under all nuts.

I. Screws:

1. For lag screws and wood screws, prebore holes same diameter as root of thread; enlarge holes to shank diameter for length of shank.
2. Screw, do not drive, all lag screws and wood screws.

3.03 Field Quality Control:

A. Chemical Treatment of Lumber:

Apply two brush coats of the specified chemical to all field cuts of chemically treated lumber.

B. Clean Up:

1. At the end of each working day, or more often if necessary, thoroughly sweep all surfaces where refuse from this portion of the work has settled.
2. Remove the refuse to the area of the job site set aside for its storage.

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3. Upon completion of this portion of the work, thoroughly broom clean all surfaces.

C. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 06221 - FINISH CARPENTRY AND MILLWORK

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Fabricator:

The fabricator of the products of this section shall have been successfully engaged in the fabrication of millwork for a period of not less than five years immediately prior to furnishing the products of this section and shall have successfully completed projects of similar size.

B. Qualifications of Installers:

1. Finish carpentry and millwork shall be installed only by skilled journeymen finish carpenters who are familiar with the materials involved and the manufacturer's recommended methods of installations and who are thoroughly familiar with the requirements of this work.
2. In acceptance or rejection of the work of this section, no allowance will be made for lack of skill on the part of installers.

C. Industry Standards:

1. Finish carpentry and millwork shall be in accordance with "Architectural Woodwork Quality Standards and Guide Specifications", Seventh Edition, version 1.0, 1997, as published by The Architectural Woodwork Institute (AWI) to the extent of the references made hereinafter thereto.
2. Plywood shall be in accordance with the American Plywood Association (APA) standards to the extent of the references made hereinafter thereto.

1.02 Definitions: Omitted.

1.03 Submittals:

- ##### A. Proof of Compliance: Prior to commencing any work of this section, submit in triplicate to the Architect:
1. a certified statement of qualifications and
 2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Prior to commencing fabrication of the products of this section, submit manufacturer's shop drawings to the Architect for review, fully dimensioned, showing actual field measurements and showing method of installation and anchorage.

1.04 Product Handling:

- ##### A. Protection: Protect the products of this section from damage during delivery, storage and after installation.
- ##### B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

For a period of not less than ten days prior to commencing installation of products of this section, throughout installation and until date of Architect's final certificate, provide heat to maintain a temperature of not less than 50 degrees Fahrenheit.

B. Humidity:

In spaces where the products are being installed, throughout installation and until date of Architect's final certificate, maintain relative humidity of not more than 60%.

C. Lighting:

Maintain lighting of not less than three watts per square foot of floor area in spaces where installation of products is in progress.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Exterior Wood Columns: (Not Used)

B. Exterior Molded Millwork: Omitted.

C. Interior Wood:

1. Solid Wood (Opaque Finish):

Interior solid wood scheduled to receive an opaque finish shall be AWI section 100, grade II, ponderosa pine, plain cut, kiln dried, with a moisture content of not more than 11%.

2. Solid Wood (Transparent Finish-Stained or Natural):

All solid wood scheduled to receive an transparent finish (stained or natural) shall be AWI section 100, grade I, white birch, plain cut, kiln dried, with a moisture content of not more than 11%.

3. Plywood (Opaque Finish):

Interior plywood scheduled to receive an opaque finish shall be AWI section 200, grade II, face grade A, white or red birch, veneer core, rotary sawn exposed to view faces.

4. Plywood (Transparent Finish Stained or Natural): Omitted

D. Nails:

1. For application to wood, nails shall be annular thread, coated steel of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-101.

2. For application to concrete or masonry, nails shall be smooth shank, hardened steel with counter sunk heads of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-101.

3. Finish nails shall be helical thread, hardened steel, bright finish, except coated nails shall be used in exterior work, and meet the requirements of Federal Specification FF-N-101.

- E. Bolts: shall be of the sizes and types for the particular use intended, except where used in exposed to view work heads shall be round.
- F. Glue: shall meet the requirements of CS-35, type 1 and be fully waterproof.
- G. Preservative: Omitted.
- H. Insect Screen: Omitted.

2.02 Fabrication:

A. General:

1. All work shall be fabricated in strict accordance with the referenced standards hereinafter described for each specific item and the original design.
2. All items shall be shop sanded.
3. All nails shall be set and left ready to putty.

B. Standing and Running Trim:

Fabricate all standing and running trim in strict accordance with AWI Section 300, Premium Grade, for opaque or transparent finish as indicated on the drawings or in the schedules; wood species shall be as indicated on the drawings.

- C. Paneling: Omitted
- D. Wood Handrails: Omitted.
- E. Wood Frames: Omitted.
- F. Wood Louvers: Omitted.
- G. Chemical Treatment: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. General:

1. Finish carpentry and millwork items shall be installed in the locations shown on the drawings and in compliance with the details shown thereon.
2. All work shall be plumb, true to line, level and accurately fitted together with joints mitered and glued, except interior corners may be coped.
3. Where work abuts other surfaces or materials, it shall be accurately scribed to such surfaces or materials.

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4. Where blocking or backing is required, coordinate as necessary with other trades to ensure placement of all required blocking and backing in a timely manner.

5. Unless otherwise shown on the drawings, wood shall be attached to wood with nails, using only finishing nails in exposed to view work and wood shall be attached to concrete and masonry with nails, expansion bolts, bolts and expansion shields, or toggle bolts as the situation dictates.

B. Standing and Running Trim:

Install all standing and running trim in lengths as long as possible, nailing to blocking or backing material with finishing nails at 12" on centers, maximum; all joints shall be staggered, mitered and glued.

C. Frames: Omitted.

D. Plywood:

Install plywood in the locations shown on the drawings in accordance with the details shown thereon, nailing to blocking or backing material at 12" on centers, maximum.

E. Louvers: Omitted.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 06410 – CABINETWORK

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Fabricator:

The fabricator of the products of this section shall have been successfully engaged in the fabrication of cabinetwork for a period of not less than five years immediately prior to furnishing the products of this section and shall have successfully completed projects of similar size.

B. Industry Standards:

Cabinetwork shall be fabricated in accordance with "Architectural Woodwork Quality Standards and Guide Specifications", Seventh Edition, version 1.0, 1997, as published by The Architectural Woodwork Institute (AWI) to the extent of the references made hereinafter thereto.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Prior to commencing fabrication of the products of this section, submit manufacturer's shop drawings to the Architect for review, fully dimensioned, showing actual field measurements and showing method of installation and anchorage.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

For a period of not less than ten days prior to commencing installation of products of this section, throughout installation and until date of Architect's final certificate, provide heat to maintain a temperature of not less than 50 degrees Fahrenheit.

B. Humidity:

In spaces where the products are being installed, throughout installation and until date of Architect's final certificate, maintain relative humidity of not more than 60%.

C. Lighting:

Maintain lighting of not less than three watts per square foot of floor area in spaces where installation of products is in progress.

D. Coordination With Other Trades:

Because equipment and fixtures scheduled to be installed in cabinetwork are furnished under other sections of this project manual as is utility hookups, cooperate as necessary with all other trades to ensure proper and adequate provisions for installation and anchorage of the equipment and fixtures and to insure proper and adequate provisions for the required utility sizing and locations.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Solid Wood:

1. Exposed to View (includes inside & outside cabinets, drawers):

All solid wood exposed to view in the finished work, shall be AWI section 100, grade 1, white birch, plain cut, kiln dried, with moisture content of not more than 8%.

2. Unexposed to View:

All solid wood which will not be exposed to view in the finished work, such as web frames, shall be AWI section 100, grade III, southern yellow pine, plain cut, kiln dried, with moisture content of not more than 11%.

B. Plywood:

1. Exposed to View (includes inside & outside cabinets, drawers):

All plywood exposed to view in the finished work, shall be AWI section 300, grade A, white birch, veneer core, plain cut face veneers on all exposed to view faces.

2. Underlayment:

All plywood used as underlayment for laminated plastic shall be AWI section 200, backing grade, mill option face veneer.

C. Particle Board:

All particle board shall meet requirements of CS 236-66, type 1-B-2.

D. Laminated Plastic:

1. All laminated plastic shall be 1/16" thick and meet the requirements of NEMA LC1-1964, type 1, class 1, and Federal Specification LP508F, type 1, HP grade, class 1.

2. Colors will be as described in Section 09999 of this project manual.

E. Glue:

All glue shall meet the requirements of CS-35, type 1, and be fully waterproof.

F. Nails:

1. For application to wood, nails shall be annular thread, coated steel of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-105.
2. For application to concrete or masonry, nails shall be smooth shank hardened steel with countersunk heads with the of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-105.
3. Finish nails shall be helical thread, hardened steel, bright finish except coated nails shall be used in exterior work and meet the requirements of Federal Specification FF-N-105.

G. Bolts: All bolts shall be of the types and sizes shown on the drawings.

2.02 Fabrication:

A. General:

1. All cabinetwork shall be fabricated in strict accordance with the referenced standards hereinafter described for each specific item and to the sizes and design shown on the drawings.
2. All items shall be shop sanded, with all nails set and left ready to putty.
3. All shelf standards shall be recessed.

B. Detail Requirements:

1. All cabinetwork shall be fabricated from the materials shown on the drawings.
2. Fabrication shall be in strict accordance with AWI section 400, premium grade for transparent finish without regard to the Finish Schedule or called for on the drawings or described elsewhere.
3. Cabinet hardware shall be installed at the fabricator's shop; installation of hardware:
 - a. Door and Drawer Pulls: To be chrome wire pulls.
 - b. Hinges - 2 per leaf, 4 for tall doors: To be snap-on type as manufactured by Grass America, Inc. and distributed by Morrison Supply Co., Inc. Chamblee, GA (404) 455-8244
 - c. Recessed Shelf Standards: No. 255 with No. 256 Supports, Knape & Vogt Mfg. Co.
 - d. Drawer Guides: No. 1300, Knape & Vogt Mfg. Co.
 - e. Catches: No. 46, Stanley Hardware

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Cabinetwork:

All cabinetwork shall be installed in the proper locations as shown on the drawings, true to line, plumb, square and level; cabinetwork shall be anchored in place.

B. Cut-outs For Other Trades:

Cut-outs for items described in other sections of this project manual to be built-in to the cabinets or counters shall be made by the cabinetwork fabricator at the project site only after the cabinetwork has been installed.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Adjustment:

Upon completion of the installation of the cabinetwork, inspect all cabinet hardware and adjust for proper operation.

END OF SECTION

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SECTION 06411 - COUNTERS AND SHELVES

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Fabricator:

The fabricator of the products of this section shall have been successfully engaged in the fabrication of cabinetwork for a period of not less than five years immediately prior to furnishing the products of this section and shall have successfully completed projects of similar size. All counters to be casework.

B. Industry Standards:

Cabinetwork shall be fabricated in accordance with "Architectural Woodwork Quality Standards and Guide Specifications", Seventh Edition, version 1.0, 1997, as published by The Architectural Woodwork Institute (AWI) to the extent of the references made hereinafter thereto.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Prior to commencing fabrication of the products of this section, submit manufacturer's shop drawings to the Architect for review, fully dimensioned, showing actual field measurements and showing method of installation and anchorage.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

For a period of not less than ten days prior to commencing installation of products of this section, throughout installation and until date of Architect's final certificate, provide heat to maintain a temperature of not less than 50 degrees Fahrenheit.

B. Humidity:

In spaces where the products are being installed, throughout installation and until date of Architect's final certificate, maintain relative humidity of not more than 60%.

C. Lighting:

Maintain lighting of not less than three watts per square foot of floor area in spaces where installation of products is in progress.

D. Coordination With Other Trades:

Because equipment and fixtures scheduled to be installed in cabinetwork are furnished under other sections of this project manual as is utility hookups, cooperate as necessary with all other trades to ensure proper and adequate provisions for installation and anchorage of the equipment and fixtures and to insure proper and adequate provisions for the required utility sizing and locations.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Solid Wood:

1. Exposed to View:

All solid wood exposed to view in the finished work, shall be AWI section 100, grade 1, white birch, plain cut, kiln dried, with moisture content of not more than 8%.

2. Unexposed to View:

All solid wood which will not be exposed to view in the finished work, such as web frames, shall be AWI section 100, grade III, southern yellow pine, plain cut, kiln dried, with moisture content of not more than 11%.

B. Plywood:

1. Exposed to View:

All plywood exposed to view in the finished work, shall be AWI section 300, grade A, white birch, veneer core, plain cut face veneers on all exposed to view faces.

2. Underlayment:

All plywood used as underlayment for laminated plastic shall be AWI section 200, backing grade, mill option face veneer.

C. Particle Board: All particle board shall meet requirements of CS 236-66, type 1-B-2.

D. Laminated Plastic:

1. All laminated plastic shall be 1/16" thick and meet the requirements of NEMA LC1-1964, type 1, class 1, and Federal Specification LP508F, type 1, HP grade, class 1.

2. Colors will be as described in Section 09999 of this project manual.

E. Glue:

All glue shall meet the requirements of CS-35, type 1, and be fully waterproof.

F. Nails:

1. For application to wood, nails shall be annular thread, coated steel of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-105.
2. For application to concrete or masonry, nails shall be smooth shank hardened steel with countersunk heads with the of the sizes and types for the particular use intended and meet the requirements of Federal Specification FF-N-105.
3. Finish nails shall be helical thread, hardened steel, bright finish except coated nails shall be used in exterior work and meet the requirements of Federal Specification FF-N-105.

G. Bolts: All bolts shall be of the types and sizes shown on the drawings.

2.02 Fabrication:

A. General:

1. All products shall be fabricated in strict accordance with the referenced standards hereinafter described for each specific item and to the sizes and design shown on the drawings.
2. All items shall be shop sanded, with all nails set and left ready to putty.
3. All shelf standards shall be recessed.

B. Detail Requirements:

1. All products shall be fabricated from the materials described hereinbefore or as shown on the drawings.
2. Fabrication shall be in strict accordance with AWI section 400, premium grade for transparent finish without regard to the finish scheduled or called for on the drawings or described elsewhere, except towel rack shall be fabricated in accordance with AWI Section 300, premium grade for transparent finish.
3. Hardware shall be installed under pertinent other sections of this project manual.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Counters: All counters to be laminated plastic.

B. Janitor's Shelves:

Install janitor's shelves in locations shown on the drawings, true to line, plumb, square and level and securely anchored in place.

C. Towel Rack:

Install towel racks in locations shown on the drawings, true to line, level and securely anchored in place.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 07111 - UNDER SLAB MEMBRANE WATERPROOFING

PART 1.00 - GENERAL

1.01 Quality Assurance:

Provide at least one person who shall be present at all times during execution of this portion of the work and who shall be thoroughly experienced in installation of the specified products, the requirements of this work, the installation recommendations of the manufacturer of the products being installed and who shall direct all work performed under this section.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Manufacturer's Data:

1. Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for the products of this section.
2. Accompanying the data submittal, furnish manufacturer's installation instructions.

B. Samples:

Accompanying the data submittal, submit samples, not less than 12" x 12", of the products of this section.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Do not install membrane waterproofing when ambient temperature is below 40 degrees Fahrenheit.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Under Slab Membrane Waterproofing System 1:

1. Membrane:
 - a. Design is based on "Nervastral 300" (30 mil thick) as manufactured by Rubber & Plastics Compound Company, Inc. New York, NY.
 - b. The following are acceptable:
 1. "BFG Vinyl Water Barrier" (30 mil thick) as manufactured by B.F. Goodrich Company, Akron, OH.

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2. "Sure-Seal Butyl Rubber Membrane" as manufactured by Carlisle Tire & Rubber Company, Carlisle, PA.
2. Adhesive:
 - a. Design is based on Nerva-Plast" as manufactured by Rubber & Plastics Compound Company, Inc. New York, NY.
 - b. The following are acceptable (for use with each specific membrane listed herein above):
 1. "BFG Construction Adhesive 104" as manufactured by B.F. Goodrich Company, Akron, OH.
 2. Adhesive as recommended by Carlisle Tire & Rubber Company for use with membrane specified hereinbefore, Article 2.01, A, 2, b.
- B. Under Slab Membrane Waterproofing System 2: (not used)
 1. Membrane:

Design is based on "Moistop" as manufactured by Fortifiber Corporation, Los Angeles, CA.
 2. Joint Sealing Strips:

Design is based on Fortifiber Grade 495, pressure sensitive tape as manufactured by Fortifiber Corporation, Los Angeles, CA.
 3. Adhesive: shall be as recommended by the manufacturer of the membrane.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Under Slab Membrane Waterproofing System 1:
 1. Locations: Install system 1 below all concrete slabs in heated areas.
 2. Preparation:
 - a. compacted subgrade shall be tight and provide a smooth bearing for membrane.
 - b. perimeter insulation shall be in place to the top of the compacted subgrade.
 3. Application:
 - a. unless otherwise required by the manufacturer of the membrane being installed, place membrane with long dimension of sheet parallel to direction of concrete pour; stagger and lap joints; side joints shall be lapped 6 " and end joints shall be lapped 12".

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- b. lapped joints shall be sealed with specified adhesive at a rate of 30 square feet per gallon, unless otherwise required by the manufacturer of the adhesive being used.
 - c. at perimeter and interior foundation walls extend membrane up wall to full thickness of porous fill and concrete slab and adhere to wall (prior to placing of premoulded expansion joint filler), using adhesive as recommended by the manufacturer of the membrane being installed, forming a "saucer" to receive the concrete pour.
 - d. at other penetrations (ie. waster and water lines, electrical conduit) turn the membrane up to full thickness of porous fill and concrete slabs and seal to same, using adhesive as recommended by the manufacturer of the membrane being installed and in addition the penetrations shall be positively sealed by placing a collar, 12 inches larger than the protrusion, of the membrane material and sealed with the recommended adhesive; re-point around all protrusions with adhesive.
- B. Under Slab Membrane Waterproofing System 2: (not used)
- 1. Locations: Install system 2 below all concrete slabs where system 1 is not called for.
 - 2. Preparations:
 - a. Compacted subgrade shall be tight and provide a smooth bearing for the membrane.
 - b. Perimeter insulation shall be in place to the top of the compacted subgrade.
 - 3. Application:
 - a. Place membrane with long dimension of sheet parallel to direction of concrete pour; stagger and lap joints, sides and ends, not less than 6".
 - b. Lapped joints shall be sealed with specified pressure sensitive tape.
 - c. At perimeter and full interior foundation walls extend membrane to full thickness of porous fill and concrete slab and adhere to wall (prior to placing premoulded expansion joint filler), using adhesive as recommended by the manufacturer of the membrane being installed, forming a "saucer" to receive the concrete pour.
 - d. At other penetrations (ie. waster and water lines, electrical conduit) turn the membrane up to full thickness of porous fill and concrete slab and seal to same, using adhesive as recommended by the manufacturer of the membrane being installed and in addition the penetrations shall be positively sealed by placing a collar, 12 inches larger than the protrusion, of the membrane material and sealed with recommended adhesive; re-point around all protrusions with adhesive.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 07114 - BELOW GRADE MEMBRANE WATERPROOFING

PART 1.00 - GENERAL

1.01 Quality Assurance:

Provide at least one person who shall be present at all times during execution of this portion of the work and who shall be thoroughly experienced in installation of the specified products, the requirements of this work, the installation recommendations of the manufacturer of the products being installed and who shall direct all work performed under this section.

1.02 Definitions: Omitted.

1.03 Submittals:

A. Manufacturer's Data:

1. Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for the products of this section.
2. Accompanying the data submittal, furnish manufacturer's installation instructions.

B. Samples:

Accompanying the data submittal, submit samples, not less than 12" x 12", of the products of this section.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Do not install membrane waterproofing when ambient temperature is below 40°F.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Membrane:

1. Design is based on "Sealtight Melnar" waterproofing membrane as manufactured by W.R. Meadows, Inc. Elgin, IL.
2. The following are acceptable:
 - a. Royston Waterproofing Membrane 104 AR, as manufactured by Royston Laboratories, Inc., Pittsburgh, PA.

B. Joint Sealing Strips:

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Sealing strips shall be standard with manufacturer of the membrane being installed, self adhering, reinforced not less than 6" wide nor less than 1/16" thick.

C. Adhesive:

Adhesive shall be standard with manufacturer of the membrane being installed.

D. Primer:

Primer shall be standard with manufacturer of the membrane being installed.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preparation:

1. Concrete surfaces scheduled to receive membrane shall be smooth free of all sharp projections, dirt, dust and loose materials; all voids and holes shall be filled with concrete.
2. Apply primer by brushing or spraying uniformly over entire surface at a rate of 100 SF/gal. and allow to dry to a tack; installation procedures shall commence prior to adhesive becoming dry.

B. Application:

1. Prepare penetrations in accordance with membrane manufacturer's printed instructions.
2. Center tape over all corners (inside, outside and at footings).
3. At footing, shape the membrane to conform to the surface by cutting a strip of sufficient width to seat over the footing and at least 6" up the wall; this may be "Z" shaped; lightly heat the material to facilitate the bends.
4. Place membrane, press firmly into position; strip plastic sheet from vertical leg.
5. On vertical surfaces position membrane butt joining adjacent sheets and lapping the membrane at the footing at least 6"; press firmly into position; support, if necessary to obtain total bonding to the wall.
6. Seal joints between adjacent sheets; stripping plastic sheet 4" from each side of sheets, centering 6" gusset tape over the joint and press firmly into position.

7. Where membrane is more than one course in height; butt join adjacent sheets and lap 6" over preceding horizontal course of membrane.

8. Seal all exposed edges of the membrane with hot asphalt.

C. Backfilling:

Backfilling shall be accomplished within 48 hours after material is applied to wall; care shall be taken so as not to disrupt the bond of the membrane to the walls or dislodge the overlay strips.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 07210 - BUILDING INSULATION

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Industry Standards:

1. Some products and executions are specified in this section by reference to published specification or standards (with respective abbreviations used); these referenced publications may be subject to special conditions or limitations where specified hereinafter.
2. Referenced Publications:
 - a. Federal Specifications (Fed. Spec.).
 - b. American Society for Testing and Materials (ASTM).

1.02 Definitions: Omitted.

1.03 Submittals:

A. Manufacturer's Data:

Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for the products described hereinafter.

B. Samples:

Accompanying the data submittal, furnish samples, not less than 6" x 6", for each type of insulation required.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Batt Insulation:

Batt insulation shall be glass fiber batts, kraft faced one side, complying with Federal Specification HH-1521E, type III, density of not less than 1.5 lbs. per cubic foot, flame spread of not more than 25; fuel contribution and smoke developed of foil facing 0; size shall be manufacturer's standard thicknesses shown on the drawings.

B. Fasteners:

Fasteners for all insulation shall be as recommended by the manufacturer of the insulation being installed for each particular condition.

2.02 Fabrication:

Insulation shall be manufactured to meet the requirements as described hereinbefore.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

Install insulation above ceiling in locations shown on the drawings, tightly fitting around penetrations and abutting surfaces.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 07701 - FLEXIBLE FLASHING

PART 1.00 - GENERAL

1.01 Quality Assurance:

For actual installation of the materials of this section, use only skilled workmen who are familiar with the products described hereinafter and the requirements of this work.

1.02 Definitions: Omitted

1.03 Submittals:

A. Manufacturer's Data:

Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data and installation instructions for the flexible flashing described hereinafter.

B. Samples:

Accompanying the data submittal, submit samples, not less than 12" x 12", of the flexible flashing.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Materials:

A. Flexible Flashing: shall be homogeneous virgin poly-vinyl chloride impervious membrane, dielectrically sealed, non-reinforced 20 mil thick sheets.

B. Adhesive: shall be elastomeric type for use with poly-vinyl chloride sheets.

2.02 Fabrication:

Flexible flashing shall be cut to width and length to allow for installation as described hereinafter.

PART 3.00 - EXECUTION:

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Location: Flexible flashings shall be installed in the following locations:

1. In exterior walls at heads of doors, windows, louvers and similar openings.
2. In exterior walls at floor line.
3. In exterior walls at sills of windows, louvers and similar openings.
4. Other locations as shown on the drawings.

B. Flexible Flashing:

1. Flexible flashings shall be installed in full height or width strips with a minimum of running joints.
2. Such joints shall be lapped not less than 6" and sealed with the specified adhesive.
3. Do not stretch the membrane.
4. The top edge of the membrane shall be mechanically attached to the framing prior to installation of the wall sheathing.
5. The bottom edge of the membrane shall extend horizontally to within 1/2" of the exterior masonry face.
6. At head of doors, windows, louvers and other openings, extend membrane 12" beyond each jamb and at sill of all openings, except doors, unless otherwise shown on the drawings, extend membrane 12" beyond each jamb.

3.03 Field Quality Control:

Materials and workmanship at all times shall be subject to inspection by the Architect or his representative.

END OF SECTION

07701 - 2*

SECTION 07900 - SEALANTS

PART 1.00 - GENERAL

1.01 Quality Assurance:

For actual caulking operations (installation of sealants and fillers) use only thoroughly trained and experienced mechanical who are completely familiar with the materials selected and the manufacturers recommended methods of installation and the requirements of this work.

1.02 Definitions:

A. Sealant:

A weatherproof elastomer used in filling and sealing joints, having properties of adhesion, cohesion, extensibility under tension, compressibility and recovery.

B. Caulk:

Term used to denote the process of filling and sealing the joints, without regard to type of material.

1.03 Submittals:

A. Manufacturer's Data:

1. Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for each type of sealant and joint filler described hereinafter.
2. Accompanying the data submittal, furnish manufacturer's installation instructions.

B. Samples:

Accompanying the data submittal, submit samples of each type and color of sealant required and samples of the joint filler.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Do not caulk if the ambient temperature is below 32 degrees Fahrenheit.

PART 2.00 - PRODUCTS

2.01 Materials:

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A. Sealants:

1. Type 1:

Design is based on "790 Building Sealant" as manufactured by Dow Corning Corporation, Midland, MI. Colors as selected by the Architect from manufacturer's standard colors.

2. Type 2:

Sealant type 2 shall be an oleo-resinous compound, gun grade, non-staining, non-shrinking, and non-sagging plastic compound meeting or exceeding Federal Specification TT-C-598b.

3. Type 3:

Design is based on "795 Building Sealant" as manufactured by Dow Corning Corporation, Midland, MI. Colors as selected by the Architect from manufacturer's standard colors.

4. Type 4:

Design is based on "786 Building Sealant" as manufactured by Dow Corning Corporation, Midland, MI. Colors as selected by the Architect from manufacturer's standard colors.

B. Primer:

All primer shall be as recommended by the manufacturer of the sealant being installed for the particular condition.

C. Joint Filler:

Unless otherwise shown or recommended by the manufacturer of the sealant being installed, joint filler shall be polyethylene foam rod, approved by the manufacturer of the sealant material, sized to require 20% to 50% compression upon insertion.

D. Application Equipment:

Sealant application equipment shall be only such equipment as is specifically recommended by the manufacturer of the sealant being installed.

PART 3.00 - EXECUTION:

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements:

1. Surface Preparation:

- a. Surfaces to be sealed shall be sound, clean, dry, frost free and free of contamination by laitance, form release agents, concrete curing compounds or other surface treatments.
- b. Masonry and concrete surfaces shall be wire brushed.
- c. Metal, glass and wood surfaces shall be wiped with methyl ethyl ketone.

2. Masking:

Surfaces adjacent to joints shall be masked to obtain a neat sealant line.

3. Joint Filler:

Joints exceeding the maximum allowable depth as hereinafter described shall be filled to within the allowable depth with the specified joint filler.

4. Primer:

Apply primer to surfaces to be caulked as recommended by the manufacturer of the sealant being installed.

B. Locations:

1. As the work progresses caulk and seal all joints subject to movement or subject to passage of air or moisture.
2. Type 1 Sealant: Install all exterior locations where sealant or caulking is called for on the drawings.
3. Type 2 Sealant: Set all metal thresholds in type 2 sealant unless specifically noted otherwise on the drawings.
4. Type 3 Sealant: Install in all interior locations where sealant or caulking is called for on the drawings except where type 4 sealant is called for.
5. Type 4 Sealant: Install in all interior locations where type 4 sealant is called for on the drawings and where sealant is called for in the ceramic tile work described in Section 09310 of this project manual and where sealant is required around plumbing fixtures.

C. Application of Sealant:

1. Install sealant under pressure to fill joint, taking care to produce beads of proper width and depth; tool as recommended by the manufacturer; immediately remove all surplus sealant.
2. Width and depth of sealed joint shall not exceed the proportions of 1/2" width x 1/2" diameter and 3/4" width x 1/4" diameter, except that metal thresholds shall be set in full bed of specified sealant.

3.03 Field Quality Control:

A. Protection:

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To insure proper curing, sealing joints shall not be touched, washed or otherwise disturbed for 48 hours after installation unless specifically recommended otherwise by the sealant manufacturer.

B. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

07900 - 4*

SECTION 07535 - REINFORCED FLEXIBLE SHEET ROOFING SYSTEM

PART 1.00 - GENERAL

1.01 Related Documents:

Drawings and general provisions of contract including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

1.02 Description of Work:

Extent of flexible sheet roofing is indicated on drawings and is hereby defined to include non-traffic bearing sheet membrane system intended for weather exposure as primary roofing. Similar and, if required, are specified elsewhere in Division 7 as waterproofing. Type of roofing systems specified in this section utilizing flexible sheet roofing membranes include the following:

Reinforced, mechanically attached, hot air welded systems.

Flexible sheet roofing membranes include the following:

NBP - Nitrile Butadiene Polymer Blend - BondCote Roofing Systems

Roof insulation related to flexible sheet roofing is specified in this section.

1.03 Quality Assurance:

A. Manufacturer: Obtain primary flexible sheet roofing from a single source manufacturer. Provide only secondary materials recommended by the primary materials manufacturer. The primary FSP must be formulated and manufactured by company selling and issuing project warranty.

B. Installer: A Georgia firm with not less than 5 years of successful experience in the installation of hot air welded roofing systems and approved by manufacture of the primary roofing system.

Assign work closely associated with flexible sheet roofing, including (but not limited to) vapor retarders, insulation, flashing, air seal flashings, counterflashings, expansion joints, and joint sealers necessary to the installation of the flexible sheet roofing system.

C. Pre-Roofing Conference: Prior to installation of roofing and associated work, meet at project site or other mutually agreed location, with installer, roofing manufacturer, installers of related work and other entities concerned with roofing performance, including (where applicable) Owner's insurer, test agencies, governing authorities, Architect and Owner. Record discussions and agreements and furnish copy to each participant. Provide at least 72 hours advance notice to participants prior to convening pre-roofing conference.

D. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification necessary in connection with fire and extended coverage insurance on roofing and associated work.

E. Thermal Resistance: Where thermal resistance properties of insulation materials are designated by R- values, they represent the rate of heat flow through a homogeneous material exactly 1" thick, measured by test method

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included in referenced material standard or otherwise indicated. They are expressed by the temperature difference in degrees Fahrenheit between two exposed faces required to cause one BTU to flow through one square foot per hour at mean temperatures indicated.

- F. Fire Performance Characteristics: Provide insulation materials which are identical to those whose fire performance characteristics, as listed for each material or assembly of which insulation is a part, have been determined by testing, per methods indicated below, by UL and FM inspecting agencies acceptable to authorities having jurisdiction.

Surface Burning Characteristics: UL790 & ASTM E-108 for class A system approval.

1.04 Submittals:

- A. Product Data: Submit specifications, installation instructions and general recommendations from manufacturers of flexible sheet roofing system materials for types of roofing required. Include data substantiating that materials comply with requirements.
- B. Samples: Submit 12" square samples of finished roofing sheets including "T-shaped" side/end-lap seam.
- Submit 12" square samples of vapor retarder and slip sheet (if any).
Submit 12" square samples of required insulation.
Indicate layout of insulation materials.
Submit current product manual from FSR System Manufacturer.
- C. Pre-Roofing Conference: Submit copies of pre-roofing conference records.
- D. Job Conditions: Weather: Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.

1.05 Special Project Warranty:

- A. Provide the manufacturer's written 15 year guarantee water tightness, signed by manufacturer of the primary roofing materials and his authorized installer, agreeing to replace or repair defective materials and workmanship, with No Dollar Limit to the Owner over the life of the warranty period. Perimeter metal, fasteners, plates, winds below hurricane force, normal roof top traffic and ponding water must be covered in the manufacturers standard written 15 year warranty with its determination of acceptability being neutral.
- B. Compatibility: Provide products which are recommended by manufacturers to be fully compatible with indicated substrates, or provide separation materials as required to eliminate contact between incompatible materials.

PART 2.00 - PRODUCTS

2.01 Reinforced FSR Membrane:

- A. NBP, Nitrile Butadiene Polymer formed into uniform, flexible sheets, complying with the following:
- | | |
|----------------------|--|
| Thickness: | 50 mil (minimum) |
| Tensile strength: | 7,500 psi (ASTM D882) |
| Puncture resistance: | 250 lbs. (Method 2031, Fed. Std. 101B) |
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Tear strength: 90 lbs. (ASTM D751)
Resistance to ozone aging: (ASTM D1149) no cracks after 168 hrs.
exposure at 104°F and 100 pphm ozone.
EMMAQUA - 4 million Langleys
Exposed face color: white

- B. Mechanically Attached Reinforced Membrane: The FSR membrane must be manufactured, sold, and warranted by a SINGLE manufacturer. Private label products are unacceptable.
- C. Manufacturer: The following manufacturer's product has been used to establish minimum standards for materials, workmanship and function:

BondCote Roofing System (NBP)

Equal systems of other manufactures may be used in the work, provided such systems have been approved by the Architect at least 10 days prior to the scheduled bid opening date. A bidder, not a supplier, who proposes to quote on an alternate system must submit to the Architect, the following information:

1. A sample of any adhesive, coating, mastic or sealant.
2. A certificate from an accredited testing laboratory comparing the physical and performance attributes of the proposed material with those of the specified material.
3. A written application for approval of the proposed system along with an explanation of the reasons why the proposed alternate should be considered.
4. A list of at least 3 jobs where the proposed alternate system was used under similar conditions. The jobs shall be located within 100 miles of the Architect's office, be at least 2 years old and be available for inspection.
5. The Architect reserves the right to be the final authority on the acceptance or rejection of any proposed alternate system.

D. Miscellaneous Materials for FSR:

1. Sheet Seaming System: Hot air welding.
2. Cant Strips, Tapered Edge Strips and Flashing Accessories: Types recommended by manufacturer of FSR material, provided at locations indicated and at locations recommended by manufacturer, including flashing cements, sealants and termination metal.
3. Slip Sheet: Type recommended by manufacturer of FSR material for protection of membrane from incompatible substrates.
4. Mechanical Fasteners: FM approved non-corrosive plates, fasteners, termination bars and other necessary accessory components, as supplied by FSR manufacturer.
5. Membrane Adhesive: As supplied by FSR manufacturer for particular substrate and projection conditions, rated to withstand a minimum of 60 psf. uplift force.

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2.02 Insulating Materials:

- A. General: Provide insulating materials to comply with requirements indicated for materials and compliance with referenced standards; in sizes to fit applications indicated, selected from manufacturer's standard thicknesses, widths and lengths.

Polyisocyanurate by Apache: rigid boards 4'x8', two courses. Provide tapered insulation package where called for on Drawings or Specifications.

B. Miscellaneous Installation Materials:

- 1. Mechanical Anchors: As recommended by system manufacturer for deck type and complying with fire and insurance rating requirements.

C. Miscellaneous Roofing Accessories:

- 1. Flashing Material: Manufacturer's standard system compatible with FSR membrane.

PART 3.00 - EXECUTION

3.01 Preparation of Substrate:

- A. General: Comply with manufacturer's instructions for preparation of substrate to receive FSR system.

All surfaces to receive the FSR and flashing shall be clean, dry, sound, free of all foreign debris.

Install flashing and accessory items as shown and as recommended by manufacturer even though not shown.

3.02 Installation:

- A. General: Comply with manufacturer's instructions, except where more stringent requirements are indicated.

On steel decks, comply with UL requirements for "Roof Deck Constructions" which are rated "Fire Acceptable" or comply with FM I-90 requirements for "Class 1" metal deck construction. On structural cement fiber, gypsum, concrete, and plywood decks, comply with FSR manufacturer's "Class A" and "Class 1" requirements for maintenance and repair systems.

3.03 Insulation Installation:

- A. General: Extend insulation over entire surface to be insulated, cutting and fitting tightly around obstructions. Form crickets, saddles and tapered areas with additional material as shown and as required for positive slope to drain. Stagger all joints in one direction for each course.

Do not install more insulation each day that can be covered with membrane before end of day and before start of inclement weather.

Secure roof insulation to substrate with mechanical anchors of type and spacing indicated by FSR manufacturer, but in no case provide less than one anchor per 5.4 square feet of surface area.

3.04 FSR Membrane Installation:

- A. Mechanically Attached FSR: Install membrane by unrolling over prepared substrate, lapping adjoining sheets as recommended by manufacturer and hot air welding seams. Install mechanical fasteners at spacing recommended by manufacturer to meet their I-90 wind requirements, covering with membrane so that no fasteners are exposed. Adhere flashing and counterflashing as shown or recommended by manufacturer. All flashings must be fully adhered.

END OF SECTION

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SECTION 07620 - METAL FLASHING AND TRIM

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Qualifications of Fabricator: The fabricator of the products of this section shall have been successfully engaged in the business of fabricating metal roof flashings and trim for a period of not less than five years immediately prior to commencing fabrication of the products of this section.

- B. Qualifications of Installers: The installer of the products of this section shall have been successfully engaged in the business of installing metal flashings and work of this section.

- C. Industry Standards: Omitted

1.02 Definitions: Omitted

1.03 Submittals:

- A. Proof of Compliance: Prior to commencing any work of this section, submit in triplicated to the Architect:
 - 1. a certified statement of qualifications and
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

- B. Shop Drawings: Prior to commencing fabrication of the products of this section, submit manufacturer's shop drawings to the Architect for review, fully dimensioned, showing actual field measurements and showing method of installation and anchorage.

- C. Samples: After review of the shop drawings, but prior to commencing fabrication, submit to the Architect for review samples of each of the following:
 - 1. Valley flashing, showing jointing; full size x 12".
 - 2. Cleat, full size.
 - 3. Eave drip, full size x 12".
 - 4. Reglet and counter flashing, full size x 12".

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Aluminum: All aluminum shall be alloy 3003-H14, prepainted color from manufacturer's standard colors.

- B. Felt: Unless otherwise specifically noted, felt shall be asphalt saturated, weighing 30 lbs. per 100 square feet.

- C. Building Paper: All building paper shall be smooth unsaturated quality, rosin-sized and weigh not less than 6 pounds per 100 square feet.
- D. Reglet and Counter Flashing: Design is based on Fry Springlok Flashing System, type SM, surface mounted, fabricated from .025 aluminum alloy, prepainted dark bronze.
- E. Fastening Devices:
 - 1. All nails, rivets, screws, expansion inserts, bolts, and similar fastenings shall be stainless steel.
 - 2. Nails for application to wood shall be flat head, "stronghold" type, not less than 12 gauge and not less than 1" long.
 - 3. Screws and bolts shall have round heads and shall be of proper size for the specific application.

2.02 Fabrication:

- A. General: Items shall be fabricated from the following thickness of aluminum alloy:
 - 1. Valley Flashing: .032
 - 2. Cleat: .032
 - 3. Eave Drip: .032, prepainted.
 - 4. Reglet and Counter Flashing: .025, prepainted
 - 5. Miscellaneous Flashing: .032, if exposed to view in finish work use prepainted aluminum.
- B. Valley Flashing: Fabricate to profiles shown on the drawings and in lengths not exceeding 8 feet.
- C. Eave Drip: Fabricate to profiles shown on the drawings and in lengths not exceeding 40 feet.
- D. Miscellaneous Flashings: Fabricate to profiles shown on the drawings and in lengths not exceeding 8 feet.
- E. Cleats: Fabricate cleats 2" wide and approximately 3" long.

PART 3.00 - EXECUTION:

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Preliminary Requirements:
 - 1. Coordinate installation of metal flashing and trim with the installation of roofing systems and gutter work.
 - 2. Prior to installing any metal flashing and trim over roofing felts, apply layer of building paper, using minimum number of nails, to separate metal items from the asphaltic felts.

- B. Valley Flashing: Install closed type valley flashings, in accordance with the details shown thereon, lapping joints not less than 6"; hold valley flashings in place with cleats spaced not more than 36" o.c.
- C. Edge Drip: Install in as long a length as is practical with expansion joints spaced not more than 40' o.c., eave drip shall be nailed to the roof deck and held in place on the face with cleats spaced not more than 36" o.c.; each joint in the eave drip shall be an expansion joint with cover approximately 4" wide in same profile as eave drip.
- D. Reglet and Counter Flashing: Install in the locations shown on the drawings, nailing reglet to masonry at 12" o.c., counter flash shall be locked into reglet in as long a length as is practical with joints being lapped not less than 6"; top of reglet shall be caulked with type 1 sealant.
- E. Miscellaneous Flashings: Install all other flashing where flashing is called for on the drawings in accordance with the details shown thereon lap joints 4" unless otherwise shown.

3.03 Field Quality Control:

Materials and workmanship at all times shall be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 07631 - HUNG METAL GUTTERS AND DOWNSPOUTS

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Quality of Fabricator: The products of this section shall be fabricated by the fabricator of the metal flashing and trim described in Section 07621 of this project manual.
- B. Qualifications of Installers: Installation of the products of this section shall be by the installer of the metal flashing and trim described in Section 07621 of this project manual.
- C. Industry Standards: Omitted

1.02 Definitions: Omitted

1.03 Submittals:

- A. Proof of Compliance: Prior to commencing any work of this section, submit in triplicated to the Architect:
 - 1. a certified statement of qualifications and
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.
- B. Shop Drawings: Prior to commencing fabrication of the products of this section, submit manufacturer's shop drawings to the Architect for review, fully dimensioned, showing actual field measurements and showing method of installation and anchorage.
- C. Samples: After review of the shop drawings, but prior to commencing fabrication, submit to the Architect for review samples of each of the following:
 - 1. Gutter, showing jointing; full size x 12" long.
 - 2. Downspout (leader), showing jointing; full size x 12" long.
 - 3. Outlet strainer, full size.
 - 4. Leader hook, full size.
 - 5. Gutter hanger, full size.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.
- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Aluminum: All aluminum shall be alloy 3003-H14, prepainted. Color to be selected from manufacturer's standard colors.
- B. Building Paper: All building paper shall be smooth unsaturated quality, rosin-sized and weigh not less than 6 pounds per 100 square feet.

- C. Leader Straps: Leader straps shall be aluminum to match downspouts.
- D. Outlet Strainer: Outlet strainer shall be aluminum wire type for rectangular leader.
- E. Fastening Devices:
 - 1. All nails, rivets, screws, expansion inserts, bolts, and similar fastenings shall be stainless steel.
 - 2. Nails for application to wood shall be flat head, "stronghold" type, not less than 12 gauge and not less than 1" long.
 - 3. Screws and bolts shall have round heads and shall be of proper size for the specific application.

2.02 Fabrication:

- A. General: Gutters, downspouts, gutter hangers, leader straps to be fabricated to the thickness of .032; prepainted.
- B. Gutters: Fabricate gutters to the sizes to match existing, in lengths not to exceed 40 feet; hangers shall be as shown on drawings.
- C. Leaders (Downspouts) and Leader Straps: Fabricate downspouts to the sizes and profiles shown on the drawings, in lengths not exceeding 10' and fabricate leader straps to designs shown on the drawings.

PART 3.00 - EXECUTION:

3.01 Inspection:

The Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Preliminary Requirements:
 - 1. Coordinate installation of gutters with the installation of roofing systems and metal flashings and trim.
 - 2. Separate all metal from roofing felts with building paper nailed in place.
- B. Gutters: Install in as long a length as practical with expansion joints at not more than 40' o.c., formed by using 2 end closures, 1 inch apart and capped with expansion joint cover 4" wide of same profile as gutter; rivet gutter hanger to top of gutter and to face of eave drip, space hangers not more than 4' o.c.
- C. Leaders (Downspouts): (size to match existing) Install downspouts in the locations shown on the drawings, lapping joints 1-1/2 inches (do not solder or rivet); downspouts shall be held in place with drive type leader hooks spaced not more than 6 feet apart.
- D. Outlet Strainer: After downspout installation is complete, install outlet strainers at each location.

3.03 Field Quality Control:

Materials and workmanship at all times shall be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 08112 - HOLLOW METAL FRAMES

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Non-Labeled Frames:

Manufacture non-labeled frames in accordance with Standard CHM-1-74 of the National Association of Architectural Metal Manufacturers, except as modified hereinafter.

B. Labeled Frames:

Manufacture labeled frames in accordance with Standard NFPA No. 80 of the National Fire Protection Association and the requirements of Underwriters' Laboratories, Inc. (UL).

1.02 Definitions: Omitted

1.03 Submittals:

A. Shop Drawings:

Submit manufacturer's shop drawings to the Architect for review prior to commencing fabrication of products of this section.

B. Hardware Templates:

In order that custom hollow metal door frames may be prepared to receive finish hardware as described in section 08711 of this project manual, the Contractor shall obtain templates from the manufacturers of the finish hardware and furnish them along with one copy of the approved "Schedule of Finish Hardware" to the manufacturer of the custom metal frames.

C. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section and the requirements of the Americans

With Disabilities Act of 1990 with all amendments as of the date of opening bids.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Materials:

A. Exterior Hollow Metal Frames:

Frames for exterior openings shall be made of commercial grade cold rolled steel conforming to ASTM Designation A366-72, not less than 14 gauge and shall have a zinc coating of not less than 0.60 ounces per square foot.

B. Interior Hollow Metal Frames:

1. Frames for interior openings shall be either commercial grade cold rolled steel conforming to ASTM Designation A366-72.
2. Metal thickness for frames 4'-0" or less in width shall be not less than 16 gauge; for frames over 4'-0" wide, not less than 14 gauge.

2.02 Fabrication:

A. Custom Hollow Metal Frames:

1. All frames shall be custom made welded units with integral trim, of the sizes and shapes shown on the drawings; knocked-down frames will not be accepted.
2. All finished work shall be strong and rigid, neat in appearance, square, true and free of defects, warp or buckle and moulded members shall be clean cut, straight and of uniform profile throughout their lengths.
3. Jambs depths, trim profile and backbends shall be as shown on the drawings.
4. Corner joints shall have all contact edges closed tight, with trim faces mitered and continuously welded, and stops mitered and welded; all welds shall be ground smooth; the use of gussets will not be permitted.
5. Depth of stops shall be 5/8 inch as shown on the drawings.
6. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designed for splicing in the field, splices shall be field welded and ground smooth.
7. Frames for multiple or special openings shall have mullion and/or rail members which are closed tubular shapes having no visible seams or joints; all joints between faces of abutting members shall be securely welded and ground smooth.
8. Hardware Reinforcements for Door Frames:
 - a. Frames shall be mortised, reinforced, drilled and tapped at the factory for fully templated mortised hardware only, in accordance with approved hardware schedule and templates provided by the Contractor; where surface-mounted hardware is to be applied, frames shall have reinforcing plates only; all drilling and tapping shall be done at the project site under section 08711 of this project manual.
 - b. Minimum thickness of hardware reinforcing plates shall be as follows:

Hinge and pivot	
reinforcements:	8 gauge, 1-1/2" x 9-1/8" min. size
Strike reinforcements:	12 gauge
Flush bolt reinforcements:	12 gauge
Reinforcements for surface	
mounted hardware:	12 gauge

9. Floor Anchors:

- a. Floor anchors shall be adjustable type, providing not less than 2" height adjustment, with two holes provided at each jamb for floor anchorage.
- b. Minimum thickness of floor anchors shall be 14 gauge.

10. Jamb Anchors:

Masonry anchors shall be attached at the factory and made to allow the passage of grout throughout frame. Frames shall be provided with suitable anchors, standard with the frame manufacturer, for the type wall construction in which they are to be installed and in the numbers as follows:

Frames under 7'-6" height:	3 anchors per jamb
Frames 7'-6" to 8'-0" height:	4 anchors per jamb
Frames over 8'-0" height:	1 anchor per jamb for each 2' or fraction thereof

11. Frames over 4'-0" wide shall have an angle or channel stiffener, not less than 12 gauge and not longer than the opening width, welded into the head at the factory; such stiffeners shall not be used as lintels or load-carrying members.

12. Dust cover boxes (or mortar guards) of not thinner than 26 gauge steel shall be provided at all hardware mortises on frames to be set in masonry or plaster partitions.

13. All door frames shall be provided with a steel spreader temporarily attached to the feet of both jambs to serve as a brace during shipping and handling.

14. Door frame stops shall be punched on the strike side to receive rubber silencers (3 per frame for single doors and 4 per frame for double doors).

15. Loose glazing stops shall be cold rolled steel, not less than 20 gauge thickness, butted at corner joints and secured to the frame with countersunk cadmium or zinc-plated screws.

B. Labeled Custom Hollow Metal Frames:

Labeled frames shall be fabricated in strict accordance with the specifications and procedures of NFPA Standard No.80 hereinbefore referenced and shall bear the UL label called for on the drawings or in the schedule.

C. Factory Priming:

After manufacture, all tool marks and surface imperfections shall be dressed, filled and sanded to make all surfaces smooth, level and free of all irregularities and then chemically treated, to insure maximum paint adhesion, and coated with a rust inhibitive primer, standard with the manufacturer of the custom hollow metal frame.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. General:

1. Except for frames located at in-place concrete or steel, place frames prior to construction of enclosing walls and ceilings; set frames in position; plumb, align and brace until permanent anchors are set.
2. In masonry construction, locate wall anchors per jamb at hinge and strike levels; building in of anchors and grouting of frames is described in section 04200 of this project manual.
3. At in-place concrete, or steel construction, set frames and secure to adjacent construction as shown on the drawings.
4. After wall construction is complete, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
5. All cut-outs shall have pressed steel cover boxes in place.

B. Labeled Frames:

Set label frames in position; plumb, align and brace until permanent anchors are set; installation shall be in accordance with NFPA Standard No. 80.

3.03 Field Quality Control:

Immediately after installation, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

END OF SECTION

SECTION 08113 - HOLLOW METAL DOORS

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Non-Labeled Frames:

Manufacture non-labeled doors in accordance with Standard CHM-1-74 of the National Association of Architectural Metal Manufacturers, except as modified hereinafter.

B. Labeled Frames:

Manufacture labeled doors in accordance with Standard NFPA No. 80 of the National Fire Protection Association and the requirements of Underwriters' Laboratories, Inc. (UL).

1.02 Definitions: Omitted

1.03 Submittals:

A. Shop Drawings:

Submit manufacturer's shop drawings to the Architect for review prior to commencing fabrication of custom hollow metal doors.

B. Hardware Templates:

In order that custom hollow metal door may be prepared to receive finish hardware as described in section 08711 of this project manual, the Contractor shall obtain templates from the manufacturers of the finish hardware and furnish them along with one copy of the approved "Schedule of Finish Hardware" to the manufacturer of the custom hollow metal doors.

C. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Materials:

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A. Exterior Hollow Metal Doors:

Doors for exterior openings shall be made of commercial quality, cold rolled steel conforming to ASTM Designation A366-72, free of scale, pitting or other surface defects and shall have face sheets not less than 16 gauge and shall have a zinc coating of not less than 0.60 ounces per square foot.

B. Interior Hollow Metal Doors:

Doors for interior openings shall be made from commercial quality, cold rolled steel conforming to ASTM Designation A366-72, free of scale, pitting or other surface defects and shall have face sheets of not less than 18 gauge.

2.02 Design and Construction:

A. Hollow Metal Doors:

1. All doors shall be custom made, of the type and sizes shown on the drawings and shall be fully welded seamless construction with no visible seams or joints on their faces or vertical edges. Interlocked and seam filled vertical edges are acceptable.
2. All doors shall be strong, rigid and neat in appearance, free from warpage or buckle and corner bends shall be true and straight and of minimum radius for the gauge of metal used.
3. Face sheets shall be stiffened by a honeycomb core. Face sheets shall be free of any visible weld marks or imperfections. The door shall be beveled lock edge. The inside of the door shall be coated with a waterproof adhesive. Minimum crush strength of 45 PSI.
4. Door faces shall be joined at their vertical edges by a continuous weld extending the full height of the door; all such welds shall be ground, filled and dressed smooth to make them invisible.
5. Top and bottom edges shall be closed with a continuous recessed steel channel of not less than 16 gauge, extending the full width of the door and spot welded to both faces; exterior doors shall have an additional flush closing channel at their top edges and, where required for the attachment of weather stripping, a flush closure also at their bottom edges; openings shall be provided in the bottom closure of exterior doors to permit the escape of entrapped moisture.
6. Edge profiles shall be provided on both vertical edges of doors as follows:
 - a. Single-acting swing doors: bevel 1/8" in 2"
 - b. Double-acting swing doors: rounded on 2-1/2" radius
7. Hardware Reinforcements:
 - a. Frames shall be mortised, reinforced, drilled and tapped at the factory for fully templated hardware only, in accordance with approved hardware schedule and templates provided by the Contractor; where surface-mounted hardware is to be applied doors shall have reinforcing plates only; all drilling and tapping shall be done at the project site under Section 08711 of this project manual.

- b. Minimum thickness of hardware reinforcing plates shall be as follows:

Hinge and pivot reinforcements: 7 gauge

Reinforcement for lock face, flush bolts, concealed holders, concealed or surface-mounted closers: 12 gauge

Reinforcements for all other surface-mounted hardware: 16 gauge

8. Glass Mouldings and Stops:

- a. Where scheduled, doors shall be provided with hollow metal mouldings to secure to secure glazing.
- b. Fixed mouldings shall be securely welded to the door on the security side.
- c. Loose stops shall be not less than 20 gauge cold rolled steel, mitered at corner joints and secured to framed opening with countersunk cadmium or zinc-plated screws; snap on attachments will not be permitted.

9. Louvers:

Where scheduled, doors shall be provided with welded blade type louvers of not less than 18 gauge commercial quality, level, cold rolled steel.

B. Labeled Hollow Metal Doors:

Labeled doors shall be fabricated in strict accordance with the specifications and procedures of NFPA Standard No.80 hereinbefore referenced, and shall bear the UL label called for on the drawings or in the schedule.

C. Factory Priming:

After fabrication, all tool marks and surface imperfections shall be dressed, filled and sanded as required to make all faces and vertical edges smooth, level and free of all irregularities and then chemically treated, to insure maximum paint adhesion, and coated with a rust inhibitive primer, standard with the manufacturer of the custom hollow metal doors.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. General:

Install custom hollow metal doors in the locations shown on the drawings, true to line, level and plumb with clearances as described in NAAMM Standard CHM-1-74, hereinbefore referenced.

B. Labeled Doors:

Install labeled doors in locations shown on the drawings with clearances as described in NFPA Standard No. 80, hereinbefore referenced.

3.03 Field Quality Control:

Immediately after installation, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

END OF SECTION

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SECTION 08202 - SOLID CORE FLUSH WOOD DOORS

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Manufacturer:

1. The manufacturer of the solid core flush wood doors shall have not less than five years continuous experience in the manufacture of solid core flush wood doors immediately prior to performing the work of this section.
2. All solid core flush wood doors shall be the product of the same manufacturer.

B. Industry Standards:

All solid core flush wood doors shall be manufactured in accordance with "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" published by Architectural Woodwork Institute (AWI), Seventh Edition, version 1.0, 1997.

1.02 Definitions:

Definitions and terms shall be as described in the referenced standards.

1.03 Submittals:

A. Shop Drawings:

Submit shop drawings to the Architect for review prior to commencing fabrication of the products of this section.

B. Manufacturer's Data:

Accompanying the shop drawing submittal, furnish Architect manufacturer's detailed materials and fabrication specifications and installation instructions.

C. Certification:

Upon completion of the work, and as a condition of its acceptance, furnish the Architect with a certification from the manufacturer of the solid core flush wood doors, signed by an officer of the manufacturing firm, properly attested, certifying that all solid core flush wood doors comply in all respects to the requirements of this project manual.

D. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Environmental Requirements:

For a period of ten days prior to the installation of any interior solid core flush wood doors, throughout the installation, and until date of Architect's Final Certificate, provide heat to maintain a temperature of not less than 50° F.

B. Glazing:

All glazing of exterior openings shall be complete before beginning installation of any interior solid core flush wood doors.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Face Veneers:

Face veneers for all solid core flush wood doors shall be "A" Grade, White Birch, rotary cut, meeting the requirements of 200-S-7 of section 200 of the referenced standard.

B. Core:

1. Core for all solid core flush wood doors shall be PC-5 as defined in section 1300 of the referenced standard, except
2. Labeled flush wood doors shall have non-combustible core in compliance with 1300-G-4 of section 1300 of the referenced standard for the label required on the drawings or in the schedules and except
3. Acoustical flush wood doors shall have cores in compliance with 1300-G-5 of the referenced standard for the STC rating of 40 or greater.

C. Vertical Edges: Vertical edges shall be Grade "1" White Birch.

D. Top and Bottom Edges: Top and bottom edges shall be mill option hardwood.

E. Cross Bands: Cross bands shall be mill option hardwood.

F. Glue: All glue shall be type 1, fully waterproof and withstand bond test described in ANSI / NWMA 1.S-1 Series.

G. Stops:

1. Wood stops shall be Grade "1" White Birch.
2. Metal stops shall meet requirements of Underwriter's Laboratories, Inc. for the door label required on the drawings or in the schedules, except where called for to be used in non-labeled doors the metal stops shall meet Underwriters' Laboratories, Inc. for 1 hour "B" label.

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2.02 Fabrication:

A. Non-Labeled, Solid Core Flush Wood Doors:

Except as modified hereinbefore, manufacture non-label doors in accordance with section 1300, custom grade, of the referenced standard, for transparent finish.

B. Labeled, Solid Core Flush Wood Doors:

1. Except as modified hereinbefore, manufacture labeled doors in accordance with section 1300, custom grade, of the referenced standards to meet the label requirements indicated on the drawings or in the schedules.

2. All labeled doors shall bear UL label for the rating called for.

C. Acoustical Doors:

Except as modified hereinbefore, manufacture acoustical doors (sound retardant) in accordance with section 1300, custom grade of the referenced standard to meet the STC rating and UL label called for on the drawings or in the schedules. STC rating of 40 or greater.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Non-Labeled, Solid Core Flush Wood Doors:

Install in frames, in the locations shown on the drawings or called for in the schedules, hanging square, plumb and level.

B. Labeled, Solid Core Flush Wood Doors:

Install in labeled hollow metal frames, in the locations shown on the drawings or called for in the schedules and in accordance with National Fire Protection Association's publication NFPA 80, hanging square, level and plumb.

C. Acoustical Doors:

1. Install in hollow metal frames called for in the locations shown on the drawings or called for in the schedules, hanging square, level and plumb.

2. Acoustical doors requiring UL label shall be installed in accordance with Article 3.02, B of this section.

3.03 Field Quality Control:

Materials and workmanship at all times shall be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 08305 - ACCESS PANELS

PART 1.00 - GENERAL

1.01 Quality Assurance: Omitted

1.02 Definitions: Omitted

1.03 Submittals:

A. Shop Drawings:

Before any products are delivered to the project site, submit to the Architect for review, manufacturer's shop drawings for all access panels.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Materials:

A. Ceiling Access Panels:

Gypsum Board Ceilings & EFIS Ceilings (*Not Used*)

1. Manufacturer:

a. Design is based on Style LWT, as manufactured by Cesco Products, Minneapolis, MN; size(s) as shown on the drawings; furnish with screwdriver cam lock, aluminum frame, aluminum door panel frame and aluminum door panel. Two 30"x 30" access doors to be provided; field verify locations.

2. Products of the following manufacturer's are acceptable:

a. Karp Associates, Inc., Maspeth, NY.
b. Milcor Incorporated, Lima, OH.

B. Ceiling Access Panel:

Gypsum Board Ceiling:

1. Manufacturer: Provide 7 doors, locate as instructed:

a. Design is based on Style Milcor at access doors, as manufactured by Milcor Limited Partnership of Lima, OH; furnish with screwdriver cam lock, steel frame, door panel, continuous hinge. Provide 1-24"x 24" and 6-8"x 8" access doors, field verify locations.

2.02 Fabrication:

Fabricate all access panels to the sizes called for on the drawings in accordance with and from materials as specified in the manufacturer's published data.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Coordination:

Coordinate installation of access panels with installation of ceiling systems in which they are installed.

B. Access Panels:

Install access panels where shown on the drawings, and in accordance with details shown thereon.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

08305 - 2*

SECTION 08711 - FINISH HARDWARE

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualification of Supplier:

1. The supplier of this section shall have been successfully engaged in the business of distributing contract hardware for a period of not less than five years immediately prior to furnishing the products of this section.

2. Hardware schedule requested hereinafter shall be prepared by a member in good standing of the American Society of Architectural Hardware Consultants.

B. Qualifications of Installers:

For actual preparation and installation of finish hardware, use only skilled personnel who are thoroughly familiar with the products, the manufacturer's published installation recommendations and the requirements of this work.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance

Prior to commencing any work of this section, submit in triplicate to the Architect, a certified statement to the effect that all products proposed to be used in this portion of the work meet requirements of this section. Prior to commencing any work of this section, submit in triplicate to the Architect, a certified statement to the effect that all products proposed to be used in this portion of the work meet requirements of the Americans with Disabilities Act of 1990 with all amendments as of the date of opening bids.

B. Hardware Schedule:

Prior to delivery of any items of finish hardware to the project site, submit to the Architect for review, an itemized schedule of finish hardware.

C. Manufacturer's Data:

Accompanying the hardware schedule, furnish manufacturer's descriptive and specification data for each item described hereinafter, in the form of a cut sheet for each item of hardware to be provided.

D. Samples: If requested by the Architect, submit samples, all samples will be returned and approved samples may be incorporated in the work.

E. Templates. Furnish templates as required in order that all members receiving finish hardware may be properly prepared.

F. Report of Inspection and Adjustment: Submit to the Architect in triplicate, the inspection and adjustment report described hereinafter.

1.04 Product Handling:

A. Packaging:

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Furnish all items of finish hardware with each unit clearly marked or numbered in accordance with the Schedule of Finish Hardware and labeled to show the specific door to receive each item.

B. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

C. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Finish Hardware:

A. Manufacturers:

1. Manufacturers of finish hardware items shall be as listed hereinafter in the "Schedule of Finish Hardware Manufacturers" for each specific item. See Section 01101 (Alternates / Approved Manufacturers) for other approved manufacturers.

SCHEDULE OF FINISH HARDWARE MANUFACTURERS

<u>ITEM</u>	<u>MANUFACTURER / SPECIFIED (also approved)</u>
Butts	Stanley Hardware, New Britain, CT
Surface Closers	LCN Closers, Princeton, IL
Push, Pull & Plates	Triangle Brass Co.
Silencers	Triangle Brass Co.
Stops, Bumpers, Holders	Triangle Brass Co.
Thresholds	Zero International Inc., Bronx, NY
Weather-stripping	Zero International Inc., Bronx, NY
Flush Bolts, and Strikes	Hager Hinge Co., St. Louis, MO
Coordinators	Hager Hinge Co., St. Louis, MO
Panic Devices	Von Duprin, Inc., Indianapolis, IN
Kickplates	Quality Hardware Mfg. Co. Inc., Hawthorne, CA
Locksets, Cylinders	Schlage Lock Co., San Francisco, CA
Roller Latches	Hager Hinge Co., St. Louis, MO

B. Lockset Design: Except as otherwise noted in the "Schedule of Hardware Sets" design is based on "SPARTA", "D" Series (lever handle) of Schlage Lock Co. **(Levers and locksets.)**

C. Finish: Unless otherwise shown in the Hardware Sets finishes shall be: **to match existing finish.**

D. Rated: All hardware to be rated the same as the door or doors it is being installed on.

2.02 Fabrication: Omitted

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PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed: notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Construction Keying: Provide a method independent of the final keying system for securing the building during construction.

B. Application of Hardware:

1. General: Items of finish hardware shall be installed in accordance with the hardware manufacturer's printed instructions contained within the material packaging.
2. Mounting Heights:
Unless specifically noted otherwise on the drawings or in the hardware schedule, mount hardware units at the following locations on each door.
 - a. Top Butt: 5" below top of door to top of butt.
 - b. Bottom Butt: 10" above bottom of door to bottom of butt.
 - c. Intermediate Butt: Equally spaced between the top and bottom butt.
 - d. Locksets: Knobs centered 38" above finish floor.
 - e. Dead Lock: Cylinder center 60" above finish floor.
 - f. Dummy Knobs: Knobs centered 38" above finish floor; at bi-folding doors, center knob 38" above finish floor and on centerline of lead.
 - g. Push Plate: Centerline of plate 45" above finish floor and 5" from door edge.
 - h. Push and Pull Plate: Centerline of plate and pull 40" above finish floor and 5" from door edge.
 - i. Panic Device: Operating bar centered 42 inches above finish floor.
 - j. Flush Bolts:
 - (1) Head: Operating device centered not more than 74" above finish floor.
 - (2) Sill: Operating device centered not more than 12" above finish floor.
 - k. Surface Bolts:
 - (1) Head: Operating device centered not more than 74" above finish floor.
 - (2) Sill: Operating device centered not more than 12" above finish floor.

1. Thresholds: Set all thresholds in bed of type 2 sealant as described in Section 07900 of this project manual.

3. Final Keying System:

- a. Just prior to final inspection, install final keying system in the presence of a representative of the Owner.
- b. Final keying systems shall be as follows:
 - (1) Grand Master Key to existing system
 - (2) Master key all locks in one (1) set
 - (3) Key locks alike where two (2) or more doors enter same space or area
 - (4) Stamp all keys "DO NOT DUPLICATE"
- c. Furnish the following keys:
 - (1) Six (6) master keys
 - (2) Three (3) keys per lock
- d. After final keying system is installed and the above keys have been delivered to the Owner, furnish the Architect with a written receipt for the same, signed by the Owner and the installer and further stating that no keys to the permanent system are outstanding.

C. Finish Hardware Sets:

Furnish finish hardware for each door in sets as shown in the following schedule:

See drawings for cash allowance for door hardware. Submit detailed hardware submittal to Architect.

See Drawings for cash allowance for purchase and installation of door hardware for each new door.

3.03 Field Quality Control

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Adjustment:

After all hardware has been installed, the supplier of the finish hardware shall inspect and adjust all items for proper operation and shall deliver to the Architect as hereinbefore described a written report of the inspection and adjustment certifying that all hardware is properly installed and operating correctly.

C. Cleaning:

Just prior to final inspection, remove all masking and clean all items of finish hardware as recommended by their manufacturer, leaving all products in a spotless condition.

END OF SECTION

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SECTION 08800 - GLASS AND GLAZING

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Installer:

The installer of the products described hereinafter shall have been successfully engaged in the business of glazing a for a period of not less than five years immediately prior to performing work of this section.

B. Codes and Standards:

Comply with the requirements of the Safety Glass Act and regulations issued thereto by the Georgia State Department of Labor.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Samples:

Prior to commencing fabrication, submit samples of each type of glass described hereinafter to Architect for review; samples shall be full thickness and not less than 12" x 12".

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Exterior: Do no glazing when the ambient temperature is below 40°F.

B. Interior:

Interior glazing shall be commenced only after all exterior glazing is complete and building is dry; maintain temperature during and after glazing at 40°F or higher.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Glass:

1. Type 1:

Design is based LOF Tuf-Flex FT Tempered Safety Glass as manufactured by Libby-Owens-Ford Co., Toledo, OH; clear float, glazing quality q³, 1/4" thick.

2. Type 2:

Design is based on Polished Misco Wire Glass as manufactured by Hordis Brothers, Inc., Pennsauken, NJ, 1/4" thick.

3. Type 3:

Design is based LOF Tempered Thermopane Insulating Glass as manufactured by Libby-Owens-Ford Co., Toledo, OH (overall glass unit 1"). Tinted with shading coefficient of 0.57. (Note: tinting of exterior glass to match existing.)

4. Type 4:

Design is based on LOF Thermopane Insulating Glass as manufactured by Libby-Owens-Ford Co., Toledo, OH; (overall glass unit 1"). Tinted with shading coefficient of 0.57. (Note: tinting of exterior glass to match existing.)

5. Type 5:

Design based on LOF Mirropane Tuf-flex tempered transparent mirror (one-way viewing), clear glass, 1/4" thick as manufactured by Libby-Owens-Ford Company, Toledo, OH.

B. Glazing Compound: shall be a one-part silicone construction sealant meeting Federal Specifications TT-S-00230C (COM-NBS) type II, Class A.

C. Setting Blocks shall be neoprene with a Shore A durometer hardness of 80 to 90.

D. Edge Blocks shall be neoprene with a Shore A durometer hardness of 60 to 70.

E. Face Shims (Continuous Spacer) shall be neoprene with a Shore A durometer hardness of 40 to 50.

F. Filler Tape: shall be medium density polyethylene or polyurethane foam.

G. CCN-Sponge: shall be closed-cell neoprene sponge with adhesive.

H. Arrow Shim: Arrow shim shall be extruded EPDM rubber.

2.02 Fabrication:

Fabricate all glass to the sizes required by the drawings, and in accordance with their manufacturer's published specifications.

PART 3.00 - EXECUTION

3.01 Inspection:

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Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Glazing:

Glaze openings with glass types as indicated on the drawings and in accordance with the details shown thereon.

B. Aluminum Windows: Glazing is described in section 08524 of this project manual.

C. Metal Frames (Custom Hollow Metal and Drywall): Glaze metal frames using setting blocks, spacers and glazing compound; hold glass in place with loose stops furnished with the custom hollow metal frames.

D. Custom Hollow Metal Doors: Glaze metal doors, using setting blocks, spacers and glazing compound; hold glass in place with loose stops furnished with the custom hollow metal doors.

E. Wood Doors: Wood doors, labeled, non-labeled and acoustical shall be glazed in accordance with Standard NFPA No. 80 of the National Fire Protection Association, unless specifically shown otherwise on the drawings.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Cleaning:

Prior to final inspection, remove all maskings and labels (do not remove labels until they have been inspected and approved by the Architect) and then clean and polish all glass.

END OF SECTION

08800 - 3*

SECTION 09260 - GYPSUM WALLBOARD SYSTEMS

PART 1.00 - GENERAL

1.01 Quality Assurance:

The installer of the products of this section shall have been successfully engaged in the business of erecting and finishing gypsum wallboard for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Manufacturer's Data:

Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for the products described hereinafter.

C. Materials List:

Prior to delivery of any materials to the project site, submit to the Architect for review, a complete list of all materials to be used in the project as described hereinafter.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Maintain a constant temperature between 55°F and 70°F in all areas where wallboard is being installed, cured or finished.

PART 2.00 – PRODUCTS

2.01 Materials:

- A. Wood Framing: Wood framing, including but not necessarily limited to wood studs, blocking and furring is furnished in section 6110 of this project manual.

B. Metal Framing:

1. Metal Studs:

SEE SHEETS A9-4, A9-5 AND A9-6 FOR METAL STUD REQUIREMENTS AND FRAMING.

2. Track: Provide slip track at the top of all metal stud walls that seal tight to the bottom of floor or roof deck to allow for deflection of the building structure. See Drawings for slip track detail.
3. Main Runners: shall be 1-1/2" cold rolled steel, not less than 20 gauge.
4. Screw Furring Channels: Screw furring channels shall be galvanized steel with face width of 1-3/8" x 7/8" furring depth and weighing not less than 292 pounds per MLF.
5. Hanger Wire: Hanger wire shall be 9 gauge, galvanized.
6. Tie Wire: Tie wire shall be 16 or 18 gauge, galvanized.

C. Gypsum Wallboard:

Gypsum wallboard shall be of the types and thickness as shown on the drawings, tapered edge and meeting the following requirements for each type:

1. Type "X": meet the requirements of ASTM C36-84a and fire endurance test as outlined in ASTM C473-84a.
2. Moisture Resistant: meet requirements of ASTM C630-84a.
3. Type "X"-Moisture Resistant: meet the requirements of ASTM C630-84a.
4. Cement board: meet the requirements of ASTM C627 and C947.
5. Non-rated: meet requirements of ASTM C36-84a.

D. Fasteners:

1. For attaching 1/2" gypsum wallboard to wood framing, fasteners shall be 1-1/4", type W, bugle head screws, cadmium plated.
2. For attaching 5/8" gypsum wallboard to wood framing, fasteners shall be 1-7/8" wallboard nail, cement coated.
3. For attaching 1/2" and 5/8" gypsum wallboard to metal framing, fasteners shall be 1", type S, bugle head screws, cadmium plated.

4. For attaching hanger wire to wood frames, fasteners shall be 7d x 2-1/4" annular threaded nails.
5. For attaching screw furring channels to main runners, fasteners shall be manufacturer's standard drywall furring channel clip.
6. For attaching face layer of wallboard to wood framing in double layer construction shall be 2-1/4", 7d wallboard nail, cement coated.
7. For attaching face layer of wallboard to metal framing in double layer construction shall be 1-5/8", type S, bugle head screws.
8. For attaching metal runners and furring channels to concrete or masonry shall be power actuated type capable of withstanding 192 pounds of single shear and 200 pounds bearing force without exceeding allowable stress design of fastener or member being fastened.
9. For attaching framing members together shall be type S, pan-head screws in sizes recommended by the metal stud manufacturer for applications required.
10. For attaching metal runners to structural steel shall be power actuated type as recommended by the metal stud manufacturer for applications required.
11. For attaching screw furring channels to main runners shall be manufacturer's standard drywall furring channel clip.

E. Accessories:

1. Outside corner beads shall be all metal, hot dipped galvanized, 1"x 1" and weighing not less than 114 pounds per MLF.
2. Casing beads shall be all metal, hot dipped galvanized, 7/8" flanges, "C" shaped, capable of being tapped and finished and weighing not less than 165 pounds per MLF.
3. Inside corner reinforcement shall be perforated tape as described hereinafter.

F. Tape: shall be 2-1/16" wide, perforated, meeting requirements of ASTM C475-74.

G. Joint Compound: shall be ready mixed, meeting requirements of ASTM C475-64.

H. Sealant:

Unless specifically noted otherwise on the drawings, sealant shall be type 3 as described in section 07900 of this project manual.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

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Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Wood Framing:

Wood framing, including but not necessarily limited to wood studs, blocking and furring shall be installed under section 06110 of this project manual.

B. Suspended Ceiling System:

1. Main Runners:

- a. Install main runners at 24"o.c., at right angle to structural members above.
- b. Suspend main runners from structural system above with hanger wire spaced not more than 48"o.c.; securely anchor to structure and to runner.

2. Suspended Screw Furring Channels:

- a. Install screw furring channels at 24"o.c. and at right angle to main runners.
- b. Anchor screw furring channels to main runners with specified clips at 24"o.c..

3. Splices:

At splices in main runners and in suspended screw furring channels make laps not less than 6 inches and tie each end of lap with specified tie wire.

C. Installation of Metal Tracks:

1. Attach lower tracks (floor) with specified fasteners spaced not less than 24" on centers.
2. Attach upper tracks (ceiling) with the specified fasteners at not less than 24" on centers and in conformance with the details shown on the drawings.

D. Installation of Metal Studs:

1. Position full length studs vertically, spaced not more than 16" on centers, except partitions above ceilings shall have studs spaced at 16" on centers, engaging floor and ceiling runners. Attach with specified fasteners, two each at top and bottom runners.
2. Provide double studs at interior and exterior corners, expansion joints, partition terminations and within 2" of door, borrowed lite and other openings in partitions. Locate next stud not more than 6" from double studs.
3. Secure abutting and intersecting walls with fasteners through stud flanges.
4. For horizontal reinforcement between studs and at openings, install cut-to-length runner sections with slit flanges secured to studs.

E. Installation of Gypsum Wallboard:

1. Install wallboard in accordance with manufacturer's printed installation and instructions, except where more stringent requirements are specified.
2. Use wallboards of maximum lengths to minimize end joints.
3. Stagger end joints when they occur.
4. Abut wallboards without forcing. Fit ends and edges of wallboard. Do not place butt ends against tapered edges.
5. Support ends and edges of wallboard panels on framing or furring members.
6. At ceilings, apply wallboard with long dimension at right angles to framings.
7. At walls, apply wallboard horizontally, attaching upper board first.
8. Fasten wallboard to framing members, using the specified fasteners spaced as recommended by the manufacturer of the wallboard being installed for the specific installation.
9. Install wallboard accessories in accordance with wallboard manufacturer's printed instructions and as follows:
 - a. Corner Bead: Install at all outside corners.
 - b. Metal Trim Shapes: At exposed edge of wallboard at door and window openings, at intersections with other materials and at intersection of walls with ceilings.
10. Caulk all perimeter joints, electrical boxes and all other penetrations with specified sealant.
11. Install metal frames where called for on the drawings, securely anchored in place, level plumb and true to line.
12. Install cement board in all walls to be covered with ceramic tile.
13. At top of walls that seal tight to floor or roof, allow for deflection of the building structure. Caulk joint from top of gypsum board to floor or roof deck; at rated partition use rated caulk.

F. Finishing:

1. Taping or Embedding Joints:
 - a. Apply compound to this uniform layer to all joints and angles. Center tape over joint and set tape into compound; leave approximately 1/64" to 1/32" compound under tape to provide bond.
 - b. Apply skim coat following tape embedment, but not to function as fill or second coat; fold tape and embed in angles to provide true angle. Dry embedding coat prior to application of fill coat.
2. Filling:
 - a. Apply joint compound over embedding coat to cover tape. Feather out fill coat beyond tape and previous joint compound line, use 12" finishing knife.
 - b. Do not apply fill coat on interior angles.

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c. Allow fill coat to dry prior to application of finish coat.

3. Finishing:

a. Spread joint compound over and beyond fill coat on all joints. Feather to smooth uniform finish, use 12" finishing knife.

b. Apply finish coat to taped angles to cover tape and taping compound.

c. Sand final application of compound to provide surface ready for decoration.

4. Finishing Beads and Trim:

a. First Fill Coat:

Apply joint compound to beads and trim. Feather out from ground to plane of the surface; dry compound prior to application of second fill coats.

b. Second Fill Coat:

Apply joint compound in same manner as the first fill coat. Extend beyond first coat onto face of wallboard; dry compound prior to application of finish coat.

c. Finish Coat:

Apply joint compound to bead and trim; extend beyond second fill coat; feather finish coat from ground to plane of surface; sand finish coat to provide flat surface ready for decoration.

5. Filling and Finishing Depressions:

a. Apply joint compound as first coat to fastener depressions; apply at least two additional coats of compound after first coat is dry.

b. Leave filled and finished depressions level with plane of wallboard.

G. Installation of Sheathing:

1. Install 1/2" thick, exterior type, gypsum sheathing for all areas to receive E.F.I.S. on the project. Verify sheathing type with E.F.I.S. manufacturer used.

3.03 Field Quality Control:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

END OF SECTION

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SECTION 09310 - CERAMIC TILE –THIN SET

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Industry Standards:

1. Some products and execution are specified in this section by reference to published specifications or standards (with respective abbreviations used); these referenced publications may be subject to special conditions or limitations where specified hereinafter.
2. Referenced Publications:
 - a. American Society for Testing and Materials (ASTM)
 - b. American National Standards Institute (ANSI)
 - c. Tile Council of America (TCA)

B. Qualifications of Installer:

The installer of the products of this section shall have been successfully engaged in the business of installing ceramic tile for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Manufacturer's Data:

Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for the products described hereinafter.

C. Samples:

1. After review of manufacturer's data, but before any products are delivered to the project site, submit to the Architect for review, samples consisting of not less than four tiles each, for each color, type and pattern of tile required.
2. Accompanying the sample submittal, submit parts list with drawings for each type or piece of trim or accessory required.

D. Extra Stock: After completion of the work, deliver to the project site not less than 2% replacement material for each 2,000 square feet (or fraction thereof) of each color, type and pattern installed, including one trim and accessory for each type and color installed; extra stock shall be from same manufactured lot as the material installed, boxed and labeled.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

- A. Temperature:
 - 1. Maintain temperature at no less than 50°F throughout setting operations and for at least seven days after completion of tile work.

 - 2. If temporary heaters are used, they shall be vented to the outside.

- B. Ventilation: Where natural ventilation is questionable, provide ventilation by use of sparkproof fans.

- C. Lighting: Maintain lighting of not less than three watts per square foot of floor area in all areas where setting and grouting operations are in progress.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Ceramic Tile:

- 1. Floor Tile: Design is based on standard grade, unglazed ceramic mosaics, impervious porcelain type, integral color, all-purpose edges, on back mounted sheets; face size of tile 1" x 1" hexagon in checker board pattern; manufactured to meet ANSI A137.1-1980; furnish with 7-1/2 % abrasive grain in shower and drying areas.

- 2. Base Tile:
 - a. Type 1:

Design is based on Standard Grade, matte glazed, bullnose top, coved bottom, 4-1/4" high x 6" long; in-corners to be square; out-corners to be bullnose; manufactured to meet ANSI A137.1 - 1980.

 - b. Type 2:

Design is based on Standard Grade, matte glazed, integral type for use with wall tile, square top, coved bottom, 4-1/4"high x 4-1/4" long; in-corners to be square; out-corners to be bullnose; manufactured to meet ANSI A137.1-1980.

- 3. Wall Tile:

Design is based on Standard Grade, matte glazed, cushioned edges, on back mounted sheets; face size 4-1/4" x 4-1/4"; in-corners to be square; out-corners to be bulnose; manufactured to meet A137.1-1980.

- 4. Trim Tile:
 - a. Ceramic tile trim shall be full size, Standard Grade, matte glazed, manufactured to meet ANSI A137.1-1980.

- b. Observe the following:
 - (1) Curbs: Bullnose and cove to provide smooth rounded surface.
 - (2) Jambs and Heads: Bulnose.

5. Accessories:

Ceramic accessories shall be by same manufacturer of ceramic tile and shall be of the types and sizes shown on the drawings or in the schedules, matte glazed; manufactured to meet ANSI A137.1- 1980.

- 6. Colors: shall be as described in Section 09999 of this project manual.

B. Setting Materials:

- 1. Portland Cement: ASTM C-150 Type 1
- 2. Hydrated Lime: ASTM C-206 or ASTM C-207, Type S
- 3. Sand: ASTM C-144
- 4. Water: Clean and potable.
- 5. Metal Lath: ANSI A42.4, self-furring galvanized weighing not less than 2.5 pounds per square yard.
- 6. Cleavage Membrane: 10 mil polyethylene meeting ANSI A37.77
- 7. Reinforcement: 2" x 2" X 16/16 gauge welded wire mesh.
- 8. Grout:
 - a. Floors: Commercial Portland Cement, grey
 - b. Walls and Base: Commercial Portland Cement, white
 - c. Accessories: Commercial Portland Cement, white

- C. Sealant: Type 4 as described in Section 07900 of this project manual.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements:

- 1. Surface Variations: to receive ceramic tile shall be within the allowable variations of 1/8" in 6'.
- 2. Layout:
 - a. Determine location of all movement joints.
 - b. Layout all tile work so as to minimize cuts less than 1/2 tile in size.

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- c. Locate both cuts in walls and floors so as to be least conspicuous.
- d. Align all floor joints to give uniform grout lines parallel to walls.
- e. Align all wall, base, and trim joints to give uniform grout lines plumb and level.

B. Setting Tile:

- 1. Floor Tile - concrete subfloor, cement mortar, cleavage membrane:

Install floor tile in accordance with TCA Standard F111-87.

- 2. Floor Tile - concrete subfloor, cement mortar, bonded:

Install floor tile in accordance with TCA Standard F112-87.

- 3. Base and Wall Tile - masonry back-up, cement mortar, bonded:

Install wall and base tile in accordance with TCA Standard W211-87.

- 4. Base and Wall Tile - masonry back-up, cement mortar, metal lath:

Install wall and base tile in accordance with TCA Standard W221-87.

- 5. Trim and accessories shall be installed in accordance with the requirements for the particular wall tile installation with which they are used.

C. Cleaning:

After grout has stiffened, sponge and wash ceramic tile with clear water, then rub with damp cloth or sponge and then polish with dry cloth.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Protection:

- 1. Foot Traffic: After completion of the installation, prohibit all foot traffic for a period of not less than seven days.
- 2. Protective Covering: Cover all ceramic tile floors with a non-staining construction paper, masked in place; remove just prior to final inspection, rinse floor and wall tile with clear water and polish with clean dry cloth.

END OF SECTION

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SECTION 09330 - QUARRY TILE—PART OF ADDITIVE ALTERNATE NO. 3

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Industry Standards:

1. Some products and execution are specified in this section by reference to published specifications or standards (with respective abbreviations used); these referenced publications may be subject to special conditions or limitations where specified hereinafter.
2. Referenced Publications:
 - a. American Society for Testing and Materials (ASTM)
 - b. American National Standards Institute (ANSI)
 - c. Tile Council of America (TCA)

B. Qualifications of Installer:

The installer of the products of this section shall have been successfully engaged in the business of installing ceramic tile for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing work of this section, submit in triplicate to the Architect a certified statement of qualifications.

B. Manufacturer's Data:

Before any products are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for the products described hereinafter.

C. Samples:

1. After review of manufacturer's data, but before any products are delivered to the project site, submit to the Architect for review, samples consisting of not less than 4 tiles each, for each color, type and pattern of tile required.
2. Accompanying the sample submittal submit parts list with drawings for each type or piece of trim or accessory required.

D. Extra Stock:

After completion of the work, deliver to the project site not less than 2% replacement material for each 2,000 square feet (or fraction thereof) of each color, type and pattern installed, including one trim and accessory for each type and color installed; extra stock shall be from same manufactured lot as the material installed, boxed and labeled.

1.04 Product Handling:

- A. Protection:** Protect the products of this section from damage during delivery, storage and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

1. Maintain temperature at not less than 50°F throughout setting operations and for at least seven days after completion of tile work.
2. If temporary heaters are used, they shall be vented to the outside.

- B. Ventilation: Where natural ventilation is questionable, provide ventilation by use of sparkproof fans.

- C. Lighting: Maintain lighting of not less than three watts per square foot of floor area in all areas where setting and grouting operations are in progress.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Quarry Tile:

1. Floor Tile:

Quarry floor tile shall be Standard Grade, 6" x 6", manufactured to meet ANSI A137.1-1980; with frets for slip resistant.

2. Base Tile:

Quarry tile base shall be Standard Grade, sized to match existing, round top and coved bottom; in-corners to be coved; out-corners to be round; manufactured to meet ANSI A137.1-1980.

3. Trim:

Quarry tile trim shall be full size, Standard Grade; manufactured to meet ANSI A137.1-1980.

4. Colors: Quarry tile colors shall match existing as close as possible.

B. Setting Materials:

1. Portland Cement: ASTM C-150 type 1
2. Hydrated Lime: ASTM C-206 or ASTM C-207, type S
3. Sand: ASTM C-144
4. Water: Clean and potable
5. Grout: Epoxy grout, color to match quarry tile

C. Sealer:

Design is based on "Silicone Sealer" as manufactured by Custom Building Products, Lithia Springs, GA.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

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Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements:

1. Surface Variations: Surfaces to receive quarry tile shall be within the allowable variations of 1/8 inch in 6 feet.

2. Layout:

- a. Determine location of all movement joints.
- b. Layout all tile work so as to minimize cuts less than 1/2 tile in size.
- c. Locate cuts in floors so as to be least conspicuous.
- d. Align all floor joints to give uniform grout lines parallel to walls.
- e. Align all base joints and trim joints to give uniform grout lines plumb and level.

B. Setting Tile:

1. Floor Tile - Concrete Subfloor, Cement Mortar, Bonded:

Install floor tile in accordance with TCA Standard F112-87.

2. Base Tile - Metal Stud & Gypsum Board Back-Up:

Install base tile in accordance with TCA Standard W211-87.

3. Trim shall be installed in accordance with the requirements for the base tile.

C. Cleaning:

After grout has stiffened, sponge and wash quarry tile with clear water, then rub with damp cloth or sponge and then polish with dry cloth. See 3.03, B, 2. for sealing requirements.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Protection:

1. Foot Traffic:

After completion of the installation, prohibit all foot traffic for a period of not less than seven days.

2. Protective Covering and Sealer:

Cover all quarry tile floors with a non-staining construction paper, masked in place; remove just prior to final inspection, rinse floor and wall tile with clear water and polish with clean dry cloth and apply specified sealer at a rate of 150 square feet per gallon.

END OF SECTION
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SECTION 09342 - MARBLE THRESHOLDS

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Fabricator:

Fabricator of products described hereinafter shall have been successfully engaged in the business of marble fabrication for a period of not less than five years immediately prior to performing the fabrication of the products of this section.

B. Qualifications of Installer:

The products of this section shall be installed by the installers of the ceramic and quarry tile.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing work of this section, submit in triplicate to the Architect a certified statement of qualifications.

B. Shop Drawings:

Submit fabricator's shop drawings to the Architect for review prior to commencing fabrication of marble thresholds.

C. Samples:

Accompanying the shop drawing submittal, furnish samples not less than 3 inches x 3 inches x 3/4 inch for each color of marble required; the samples shall be representative of the color range.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

1. Maintain temperature at not less than 50 degrees Fahrenheit throughout setting operations and for at least seven days after completion of marble work.
2. If temporary heaters are used, they shall be vented to the outside.

B. Ventilation: Where natural ventilation is questionable, provide ventilation by use of sparkproof fans.

- C. Lighting: Maintain lighting of not less than three watts per square foot of floor area in all areas where setting and grouting operations are in progress.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Marble: Marble shall be White Georgia.
- B. Setting Materials: Setting bed shall be cement mortar, as described in section 09310 of this project manual.
- C. Dowels: shall be 3/8" diameter x 3" long, non-corrosive metal alloy.

2.02 Fabrication:

Marble thresholds shall be fabricated to the sizes and designs shown on the drawing with honed finish on all exposed to view surfaces.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Surface Variations:

Surface to receive marble thresholds shall be within the allowable variations of 1/8 inch in 6 feet.

B. Setting Marble:

Set marble threshold in full bed of cement mortar, level and true to line; dowel into concrete subfloor with concealed dowels (3 per threshold).

C. Cleaning:

After grout has stiffened, sponge and wash marble with clean water, then rub with damp cloth or sponge and then polish with dry cloth.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Protection:

1. Foot Traffic: After completion of the installation, prohibit all foot traffic for a period of not less than seven days.
2. Protective Covering: Cover all marble with a non-staining construction paper, masked in place; remove just prior to final inspection, rinse with clear water and polish with clean dry cloth.

END OF SECTION
09342 - 2*

SECTION 09510 - ACOUSTICAL TILE CEILINGS

PART 1.00 - GENERAL

1.01 Quality Assurance:

The installer of the products of this section shall have been successfully engaged in the business of erecting acoustical tile ceilings for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Prior to commencing installation of the products of this section, submit shop drawings to the Architect for review, fully dimensioned and superimposed over duct work; show locations of all mechanical and electrical items located in the ceiling tile.

C. Samples:

Accompanying the shop drawing submittal, furnish samples of each type of ceiling tile and suspension system described hereinafter; ceiling tile samples shall be not less than 12" x 12".

D. Manufacturer's Data:

Accompanying the shop drawing submittal, furnish manufacturer's detailed material and fabrication specifications and installation instructions for each type of acoustical tile for each suspension system described hereinafter.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Environmental Requirements:

For a period of ten days prior to and throughout the installation of acoustical tile and until date of Architect's Final Certificate, maintain a temperature of not less than 50 degrees Fahrenheit and a relative humidity of not more than 60 percent.

B. Glazing:

All glazing of exterior openings shall be complete and exterior doors shall be in place before beginning installation of any work under this section.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Acoustical Tiles:

1. Type 1:

Acoustical ceiling tile shall be 24" x 24" x 5/8" thick, reveal edge for installation in Type 1 suspension system described hereinafter; tile shall be non-directional fissured, manufactured to meet requirements of Federal Specification SS-S-118a, have an STC rating of 35 to 39, with min. density of 16 lbs. per cubic foot, with light reflectance of "A" and have a flame spread of 0-25 (ASTM E84).

Note: All light fixtures are to be directly supported on all 4 (four) corners with No. 9 gauge wire attached to structure above.

2. Type 2:

Design is based on vinyl covered, waterproof gypsum board panels as manufactured by United States Gypsum, 24" x 24" x 1/2". **Install in all toilet rooms and janitor's rooms even if not called for in the Drawings.**

3. Type 3: Ceiling (NOT USED)

Ceiling to be Rock Face Clima Plus, 24" x 24" x 5/8", square edge in Donn DX Suspension System with Rock Face Impaction Clima Plus Spring Assembly Clips, one clip per panel, as manufactured by USG Interiors, Inc., phone (770) 396-9022.

B. Suspension Systems:

1. Type 1: Design is based on DX exposed grid system as manufactured by Donn Corp., Westlake, OH, in manufacturer's standard white finish.
2. Type 2: See Acoustical Tile Type 2 for grid requirements for wet locations.
3. Type 3: To be Donn DX exposed grid system with 1-1/2" cross tees as required by manufacturer for Rock Face Tile. (NOT USED)

C. Tile Markers:

1. Rosettes: Rosettes shall be 2" diameter x 1/16" thick aluminum with white baked enamel finish. Locate on ceiling tiles at all valves above ceiling.
2. Adhesive: Coordinate locations with mechanical. Adhesive to be an epoxy compatible with the ceiling tile with which used.

2.02 Fabrication: Omitted

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this
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section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Layout:

1. Acoustical tile ceilings shall be centered within areas, producing no tile less than 1/2 size, unless specifically shown otherwise on the drawings.
2. Lines shall be established by the Contractor and maintained by him or her throughout the work and all trades shall work to these lines.

B. Erection of Suspension Systems:

1. Type 1: Erect in accordance with the manufacturer's published literature producing:
 - a. a 24" x 24" grid for installation of Type 1 acoustical tile and
 - b. a 24" x 24" grid for installation of Type 2 acoustical tile and
2. Type 2: Erect in accordance with the manufacturer's published literature producing a 24" x 24" grid for installation of Type 3 acoustical tile.

C. Installation of Acoustical Tiles:

Acoustical tiles shall be installed in their respective suspension systems in accordance with the tile manufacturer's installation procedures and recommendations.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Cleaning:

Upon completion of work, clean all spots and leave ceiling tile and trim in a clean and spotless condition.

END OF SECTION

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SECTION 09660 - RESILIENT TILE FLOORING

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Manufacturers:

Resilient tiles, divider strips, edging strips and adhesives shall be the products of the same manufacturer.

B. Qualifications of Installer:

The installer of the products of this section shall have been successfully engaged in the business of installing resilient tile floor covering for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance: Prior to commencing work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Manufacturer's Data:

1. Before any products are delivered to the project site, submit to the Architect for review, the manufacturer's detailed descriptive and specification data for the products described hereinafter.
2. Accompanying the data submittal, furnish the manufacturer's installation instructions.

C. Samples: After review of manufacturer's data, but before any products are delivered to the project site, submit to the Architect for review, full sized samples of the resilient tile for each type and color required; the samples shall be representative of the color range and pattern variation of the tile.

D. Maintenance Guides: Furnish manufacturer's printed maintenance instructions for the resilient flooring.

E. Extra Stock: After completion of the work, deliver to the project site not less than 2 percent replacement material for each 2,000 square feet (or fraction thereof) of each tile color and pattern installed; extra stock shall be from same manufactured lot as the material installed, boxed and labeled.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

- A. Temperature: For a period of at least 24 hours before commencing installation, during installation and for at least 48 hours after installation is complete, maintain a temperature of not less than 70 degrees Fahrenheit.
- B. Ventilation: Where natural ventilation is questionable, provide ventilation by use of sparkproof fans.
- C. Lighting: Maintain lighting of not less than three watts per square foot of floor area in all areas where products of this section are being installed.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Resilient Tiles: **(note: all colors from same color group)**

1. Type 1: Tiles shall be composed of vinyl resins and mineral fibers, 12" x 12" x 1/8" thick, thru chip, free of physical defects and meeting Federal Specifications SS-T-312 B, type IV.
2. Type 2: Same as type 1, except for difference in color; see drawings.
3. Type 3: Same as type 1, except for difference in color, see drawings.

B. Neutral Dividing Strips:

Neutral dividing strips shall be composed of vinyl resins and mineral fibers, 2" wide x 1/8" thick, unless otherwise specifically noted, in lengths as required by the drawings and meeting Federal Specifications SS-T-312 B, type W.

C. Neutral Edging Strips:

Neutral edging strips shall be composed of vinyl resins and mineral fibers, 2 inches wide x 1/8 inch thick, unless otherwise specifically noted, in lengths as required by the drawings, bullnose one edge and meeting Federal Specifications SS-T-312 A, type IV.

D. Adhesive:

Adhesives shall be only that which is recommended by the manufacturer of the resilient material being installed in the work.

E. Colors:

1. Resilient Tiles: Colors for resilient tile shall be as described in section 09999 of this project manual.
2. Neutral Dividing Strips: Black
3. Neutral Edging Strips: Black

2.02 Fabrication: Omitted

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements:

1. Surface Variations: Surfaces to receive resilient tile shall be within the allowable variations of 1/8" in 6 feet and 1/16 inch in 1 foot.
2. Locations:
 - a. Type 1 resilient tile shall be installed in all locations shown on the drawings or in the schedules where "resilient tile" is called for except
3. Layout: Fields, patterns and borders shall be centered on applied areas. See drawings for designs of different colored resilient tile.

B. Application of Adhesives:

Apply adhesive in accordance with manufacturer's instructions contained in the adhesive packaging material.

C. Laying Resilient Tiles:

Unless otherwise specifically shown on the drawings, lay tiles square with room axes, in patterns and with borders as shown on the drawings; surfaces shall be smooth and even, joints shall be tight and accurately aligned; lay full tile at center of space and partial tiles at walls.

D. Laying Neutral Divider Strip:

Lay neutral dividing strip directly beneath all doors in areas receiving resilient tile; where cased openings occur, dividing strip shall be full depth of cased opening frame.

E. Laying Neutral Edging Strip:

Where resilient tile terminates at a point higher than contiguous flooring and where carpet surfacing abuts resilient tile, lay edging strip.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Cleaning and Protection:

Upon completion of the installation, remove excess adhesive and blemishes from tile and adjacent surfaces, using a neutral type cleaner and then provide a non-staining paper pathway taped to the tile in direction of foot traffic; remove just prior to final inspection and then clean tile and related items and buff with a mechanical buffer.

3.04 Contractor Cleaning Instructions To Owner:

A. Prior to occupancy of the Owner, floor covering subcontractor to submit written detailed cleaning and sealing requirement for the upkeep of the resilient tile floor. Floor covering subcontractor to demonstrate to Owner's Representative proper cleaning and sealing procedure and submit signed letter from Owner's Representative stating instructions were given to Architect.

Floor covering subcontractor is to clean all resilient tile floors and install a minimum of four coats of sealer with 24 hours between coats and buff each coat prior to substantial completion.

END OF SECTION

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SECTION 09661 - RESILIENT BASE

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Manufacturers:

Resilient base and adhesives shall be the products of the same manufacturer.

B. Qualifications of Installer:

The installer of the products of this section shall have been successfully engaged in the business of installing resilient tile floor covering for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Manufacturer's Data:

1. Before any products are delivered to the project site, submit to the Architect for review, the manufacturer's detailed descriptive and specification data for the products described hereinafter.
2. Accompanying the data submittal, furnish the manufacturer's installation instructions.

C. Samples:

After review of manufacturer's data, but before any products are delivered to the project site, submit to the Architect for review, samples 6" long for each type and color required; the samples shall be representative of the color range.

D. Maintenance Guides:

Furnish three copies of manufacturer's printed maintenance instructions for the resilient base.

E. Extra Stock:

After completion of the work, deliver to the project site not less than 15 linear feet of base for each color and type of resilient base installed; extra stock shall be from same manufactured lot as material installed, boxed and labeled.

1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

For a period of at least 24 hours before commencing installation, during installation and for at least 48 hours after installation is complete, maintain a temperature of not less than 70 degrees Fahrenheit.

B. Ventilation:

Where natural ventilation is questionable, provide ventilation by use of sparkproof fans.

C. Lighting:

Maintain lighting of not less than three watts per square foot of floor area in all areas where products of this section are being installed.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Resilient Base:

Resilient base shall be set on type, cove, 4" x .080" thick, fabricated from homogeneous vinyl and conforming to Fed. Specifications SS-W-40A, type II.

B. Adhesive:

Adhesive shall be only that which is recommended by the manufacturer of the base being installed.

C. Colors:

Colors for resilient base shall be as described in section 09999 of this project manual. 3 colors from the same color group will be used.

2.02 Fabrication: Omitted

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements: Surfaces to receive resilient base shall be within the allowable variations of 1/8 inch in 6 feet and 1/16 inch in 1 foot.

B. Application of Adhesives:

Apply adhesive in accordance with manufacturer's instructions contained in the adhesive packaging material. Apply 3 beads of adhesive to surfaces receiving resilient base.

C. Resilient Base:

Apply resilient base in all areas as shown on the drawings, in as long lengths as practicable, tightly bonding base to backing throughout the length of each piece, with continuous contact at horizontal and vertical surfaces; do not stretch base; tightly wrap corners with a continuous piece of resilient base with the nearest seam not less than 18" from the corner.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Cleaning:

Upon completion of the installation, remove excess adhesive and blemishes from the base and adjacent surfaces using a neutral type cleaner; just prior to final inspection clean base with soap and water and buff with dry cloth.

END OF SECTION

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SECTION 09662 - RESILIENT TREADS AND STRINGERS

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Manufacturers:

Products of this section shall be the products of the same manufacturer.

B. Qualifications of Installer:

The installer of the products of this section shall have been successfully engaged in the business of installing resilient tile floor covering for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Manufacturer's Data:

1. Before any products are delivered to the project site, submit to the Architect for review, the manufacturer's detailed descriptive and specification data for the products described hereinafter.
2. Accompanying the data submittal, furnish the manufacturer's installation instructions.

C. Samples:

After review of manufacturer's data, but before any products are delivered to the project site, submit to the Architect for review, samples full depth x 6" long for each color of tread and stringer required; the samples shall be representative of the color range and pattern variation of the treads.

D. Maintenance Guides:

Furnish three copies of manufacturer's printed maintenance instructions for the resilient treads and stringers.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.
- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

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For a period of at least 24 hours before commencing installation, during installation and for at least 48 hours after installation is complete, maintain a temperature of not less than 70 degrees Fahrenheit.

B. Ventilation:

Where natural ventilation is questionable, provide ventilation by use of sparkproof fans.

C. Lighting:

Maintain lighting of not less than three watts per square foot of floor area in all areas where products of this section are being installed.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Resilient Treads:

See Drawings for specs on resilient treads and base at each step. Install on all metal pan treads.

B. Resilient Stringers:

Stringers shall be 1/8" thick, fabricated from homogeneous vinyl and conforming to Federal Specification SS-W-40A, type II and shall match color of resilient base with which used.

C. Resilient Nosing:

Design is based on Stock No. 90 vinyl step nosing as manufactured by Roppe.
Note: See drawings for locations and sepc on metal nosing

D. Adhesive:

Adhesive shall be only that which is recommended by the manufacturer of the tread and/or stringer being installed.

E. Colors:

Colors for resilient stair treads, nosing and stringers shall be as described in Section 09999 of this project manual.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

- A. Preliminary Requirements: Surfaces to receive resilient treads shall be within the allowable variations of 1/8" in 6' and 1/16 " in 1'.
- B. Application of Adhesives: Apply adhesive in accordance with manufacturer's instructions contained in the adhesive packaging material.
- C. Resilient Treads: Install resilient treads in the locations shown on the drawings and in accordance with the details shown thereon, with continuous contact at horizontal and vertical surfaces.
- D. Resilient Stringers: Install stringers in the locations shown on the drawings and in accordance with the details shown thereon, with continuous contact at vertical surfaces.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Cleaning:

Upon completion of the installation, remove excess adhesive and blemishes from treads and adjacent surfaces using a neutral type cleaner and then provide a non-staining paper pathway taped to the treads in direction of foot traffic; remove just prior to final inspection and then clean treads and related items and buff with mechanical buffer.

END OF SECTION

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SECTION 09900 - PAINTING

PART 1.00 - GENERAL

1.01 Quality Assurance:

The applicator of the products described hereinafter shall have been successfully engaged in the business of painting for not less than five years immediately prior to performing the work of this section.

1.02 Definitions:

A. Paint:

Term used in a general sense and has reference to sealers, primer, stains, oils, alkyd, latex, epoxy and enamel type paints.

B. Painting:

Term used in a general sense and has reference to the application of "paint", without regard to the type of material to an item.

C. Back Prime:

Term used in a general sense and has reference to the application of "paint" (first coat), without regard to the type of material, to the back side (unexposed to view) of an item.

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Materials List:

Prior to delivery of any paint materials to the project site, submit to the Architect for review, a complete list of all paint materials to be used in this project as described hereinafter.

C. Manufacturer's Data:

Accompanying the materials list, furnish the paint manufacturer's detailed descriptive and specification data and application instructions for each type of paint required.

D. Color Samples:

1. After review of the material list and manufacturer's data, but prior to delivery of any paint to the project site, submit color samples, not less than 12" x 12" each, for each type and color of finish required.
2. Wherever possible, the material upon which the sample colors are applied shall be the same material as that on which the paint will be applied in the project.

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1.04 Product Handling:

A. Protection:

Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

Maintain a constant temperature of not less than 50⁰ F. during painting and drying operations and until date of Architect's Final Certificate.

B. Ventilation:

Provide ventilation to allow for the proper drying of the paint materials by using either of the following:

1. temporary air circulators (sparkproof).
2. air conditioning system.

C. Lighting:

Maintain lighting of not less than three watts per square foot of floor area in all areas where painting operations are in progress.

PART 2.00 - PRODUCTS

2.01 Materials:

A. Paint:

1. All paints selected for the coating system for each type of surface shall be the product of a single manufacturer and as described hereinafter.
2. Thinners, when used, shall be only those thinners recommended for that purpose by the manufacturer of the material to be thinned.
3. Colors shall be as specified in Section 09999 of this project manual.

B. Equipment:

1. Application Equipment:

Brushes, rollers, spray apparatus and like application equipment are not required to be new, but they shall be capable of producing the required results specified hereinafter.

2. Accessory Equipment:

Ladders, scaffolding, drop cloths, scrapers, dusters, and like items are not required to be new, but they shall be safe, adequate and capable of producing the results for which they are intended.

2.02 Fabrication: Omitted.

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PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements:

1. Surface Preparation:

a. Protection:

Prior to all surface preparation and painting operations, completely mask, remove or otherwise adequately protect all hardware, accessories, machined surfaces, plates, lighting fixtures, and similar items in contact with painted surfaces, but not scheduled to receive paint. All locksets, surface mounted closers, push and pull plates, kick plates, panic devices, door and drawer pulls and similar items shall be removed prior to commencing painting operations.

b. Priming:

Spot prime all exposed nails and other metals which are to be painted with emulsion paints, using a primer recommended by the manufacturer of the coating system.

c. Cleaning:

- (1) Before applying paint or other surface treatment, thoroughly clean all surfaces involved.
- (2) Schedule all cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

2. Mildew:

- a. Remove and neutralize mildew by scrubbing affected areas thoroughly with a solution made by adding 2 oz. Trisodium Phosphate type cleaner and 8 oz. Sodium Hypochloride to 10 gal. of warm water.
- b. Use a scouring powder if necessary to remove mildew spores.
- c. Rinse with clear water and allow to dry thoroughly before painting.

3. Efflorescence:

Scrub off with a commercial lime solvent or one part commercial muriatic acid to five parts water and then rinse with clear water and allow surface to thoroughly dry before painting.

4. Wood:

- a. Sandpaper to smooth and even surface, then dust off.
- b. Before priming coat is applied, touch up all knots, pitch streaked and resinous sapwood with shellac, four pound cut.

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- c. After priming coat has dried, putty all nail holes, cracks, open joints and other defects.
 - d. Putty shall be colored to match stain or paint.
 - e. Prior to installation, painted wood trim shall be back-primed and stained wood trim shall be back-sealed.
5. Plaster (Gypsum):
- a. Rake small cracks, scratches and abrasions deeply.
 - b. Undercut large crack edges, coat with shellac and fill with prepared patching plaster.
 - c. Spot coat patches with prime coat when dry and prior to applying specified prime coat.
 - d. Do not use sandpaper on plaster surfaces to be painted.
 - e. Before painting any plaster, surfaces shall be tested with a moisture testing device.
 - f. No paint or sealer shall be applied on plaster when moisture content exceeds 20%, except as may otherwise be required by the manufacturer of the paint materials to be used.
6. Gypsum Wallboard:

Fill all minor irregularities with spackling compound and sand to a smooth, level surface, exercising care to avoid raising nap of paper.

7. Concrete, Unit Masonry and Exterior Plaster (Portland Cement):
- a. Patch large openings and holes with Portland cement mortar and finish flush with adjacent surface.
 - b. After priming, fill any remaining small holes with Swedish putty made by mixing dry whiting with prime coat of paint.
 - c. Remove form-oil from poured-in-place concrete by washing concrete with Xylol.
 - d. Surfaces shall be allowed to dry completely, usually 60 to 90 days in moderate weather, before painting.
 - e. No painting shall be done until surfaces are tested by moisture meter and shown to be within the acceptable limits of the specified manufacturer and safe to paint.
8. Ferrous Surfaces:
- a. Remove dirt and grease with mineral spirits and wipe dry with clean cloths.
 - b. Remove rust, mill scale and defective paint down to bare metal, using scraper, sandpaper or wire brush as necessary.

- c. Grind if necessary to remove shoulders at edge of sound paint to prevent flaws from photographing through finish coats.
 - d. Touch up all bare metal and damaged shop coats with specified rust inhibitive primer.
9. Galvanized Surfaces:
- a. Remove dirt and grease with mineral spirits and dry with clean cloth.
 - b. All galvanized steel surfaces shall be pretreated with proprietary acid-bound resinous or crystalline zinc phosphate preparation prior to painting.
10. Lead Coated Copper: Remove dirt and grease with mineral spirits and wipe dry with clean cloth.
- B. Paint Application:
1. General:
- a. Paint all surfaces except aluminum, glass, face brick and prefinished items unless otherwise shown on the drawings.
 - b. Paint all access panels, registers and grilles to match the color of the adjacent walls or ceilings.
 - c. Prime coated butts shall be painted the same color as the door trim.
 - d. Exposed piping, conduit, ductwork, and hangers, generally in finished areas, shall be painted to match the walls or ceilings adjacent to them; where adjacent surfaces are unpainted these items will be painted black.
 - e. The top and bottom edges of all wood and metal doors shall be finished with two coats of paint or varnish as used for finished coat, applied after fitting but before faces are painted.
 - f. The interior of all cabinets, including drawers and shelves, shall be finished the same as in the exterior surfaces.
 - g. Where aluminum materials are placed in contact with or fastened to dissimilar metals, with the exception of stainless steel or galvanized metals, the contact surfaces shall be given a heavy brush coat of zinc chromate primer made with a synthetic resin vehicle, followed by two coats of aluminum metal and masonry paint.
 - h. Where aluminum materials are placed in contact with, or built into masonry or plaster, they shall be given a heavy brush coat of methacrylate lacquer.
 - i. Where aluminum materials are placed in contact with green or wet wood, or any absorptive material subjected to repeated wetting, or wood treated with a non-compatible preservative, the contact surfaces shall be given a heavy brush coat of aluminum pigmented bituminous paint.

- j. Dissimilar metals shall be painted if drainage from them passes over aluminum work.
2. Drying:
 - a. Allow sufficient drying time between coats.
 - b. Modify the period as recommended by the material manufacturer to suit adverse weather conditions.
 - c. Oil-base and oleo-resinous solvent type paints shall be considered dry for re-coating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
 3. Environmental Conditions:
 - a. Comply with the manufacturer's recommendation as to environmental conditions under which the coating systems may be applied.
 - b. Do not apply paint in areas where dust is being generated.
 4. Moisture Content:
 - a. Use a moisture meter approved by the Architect to test surfaces.
 - b. Do not apply the initial coating until moisture meter reading is within limits recommended by the paint materials manufacturer.
 5. Defects: Sand and dust between coats to remove all defects visible to the unaided eye from a distance of five feet.
 6. Color of Undercoats: Slightly vary the color of succeeding coats.
- C. Inspection:
1. General: Do not apply additional coats until completed coat has been inspected and approved by the Architect.
 2. Number of Coats: Only inspected and approved coats of paint will be considered in determining the number of coats applied.

D. Reinstallation of Removed Items:

Following completion of painting in each area, promptly reinstall all items removed for painting, using only workmen skilled in the particular trade.

E. Painting Systems Schedule:

1. Exterior:
 - a. Exterior Gypsum Wallboard: shall be painted with one of the following:
 - (1) Sherwin-Williams Company
 - 1 coat A-100 Exterior Latex Primer
 - 2 coats Tile Clad II Enamel B-62 Series
 - (2) PPG Industries
 - 1 coat Pit Glaze Pigmented Sealer
 - 2 coats Pit Glaze
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- (3) Glidden
 - 1 coat Spred Primer Sealer No. 3416
 - 2 coats Glid-Tile Epoxide

- b. Ferrous Metal: shall be painted with one of the following:
 - (1) Sherwin-Williams Company
 - 1 coat Kem Kromik Primer
 - 2 coats Industrial Primer

 - (2) PPG Industries
 - 1 coat 54-208 Rust Control Primer
 - 2 coats Quick Drying Exterior Enamel

 - (3) Glidden
 - 1 coat 4570 Red Oxide Primer
 - 2 coats Glid-Guard Alkyd Enamel

- c. Galvanized Metal; Lead Coated Copper:
All galvanized metal shall be painted with one of the following:
 - (1) Sherwin-Williams Company
 - 1 coat Galvite
 - 2 coats Industrial Enamel

 - (2) PPG Industries
 - 1 coat 6-209 Galvanized Iron Primer
 - 2 coats Quick Drying Exterior Enamel

 - (3) Glidden
 - 1 coat #5229 Galvanized Iron Primer
 - 2 coats Glid-Guard Alkyd Enamel

- d. Cast-In-Place Concrete:
All exposed to view Cast-In-Place Concrete to receive paint coating except sidewalk and stairs. Where called for on the drawings, cast-in-place concrete shall be painted with one of the following:
 - (1) Sonneborn Building Products
 - 2 coats (10 mil film thickness each coat)
 - Hydrocide Super Color Coat

 - (2) Tnemec
 - 1 coat (7.8 mil film thickness) System 52-1

- e. Wood (Painted):
Where called for on the drawings; wood shall be painted with one of the following:
 - (1) Sherwin-Williams Company
 - 1 coat A-100 Alkyd Primer Y24W20
 - 2 coats SWP Gloss Paint A2 Series

 - (2) PPG Industries
 - 1 coat Sun-Proof Universal Primer
 - 2 coats Sun-Proof House and Trim Paint

- (3) Glidden
 - 1 coat Y-1951 Base Coat
 - 2 coats Y-1901 House and Trim Paint
- 2. Interior:
 - a. Concrete:

Interior concrete exposed to view, except floors, shall be painted with one of the following systems:

 - (1) Sherwin-Williams Company
 - 2 coats Pro Mar 200 Latex Semi Gloss B31W200
 - (2) PPG Industries
 - 2 coats No. 6-510 Latex Semi Gloss
 - (3) Glidden
 - 2 coats Spred Low Lustre Latex Enamel No. 3700
 - b. Hollow Concrete Masonry - Special Coating:
 - (1) Sherwin-Williams Company
 - 1 coat H.D. Block Filler B42W46
 - 2 coats Tile Clad II Epoxy
 - (2) PPG Industries
 - 1 coat Pit Glaze Block Filler 16-9
 - 2 coats Pit Glaze
 - (3) Glidden
 - 1 coat 5512 Glid-Tile Block Filler
 - 2 coats 5550/5552 Glid-Tile Epoxide
 - c. Hollow Concrete Masonry:

Interior hollow concrete masonry not scheduled to receive special coating shall be painted with one of the following:

 - (1) Sherwin-Williams Company
 - 1 coat Block Filler B25W25
 - 2 coats Pro Mar 200 Latex Semi Gloss B31W200
 - (2) PPG Industries
 - 1 coat Speedhide Masonry Block Filler 6-7
 - 2 coats No. 6-510 Latex Semi Gloss
 - (3) Glidden
 - 1 coat 581-W-8101 Block Filler
 - 2 coats Spread Low Lustre Latex Enamel No. 3700
 - d. Plaster (Gypsum): Omitted.
 - e. Plaster - Special Coating: Omitted.
 - f. Ferrous Metal:

Ferrous metal exposed to view, including but not limited to all mechanical piping, structural steel and air conditioning ducts, shall be painted with one of the following systems:

 - (1) Sherwin-Williams Company
 - 1 coat Kem Kromik Primer
 - 2 coats Industrial Enamel B54 Series

- (2) PPG Industries
 - 1 coat 54-208 Primer
 - 2 coats Speedhide Semi Gloss Enamel

- (3) Glidden
 - 1 coat 4520 Glide Guard Red Oxide Primer
 - 2 coats Spred Lustre 4600 Series

g. Gypsum Wallboard: (Eggshell Finish)

Gypsum wallboard scheduled to receive paint (not special coatings) shall be painted with one of the followings systems:

- (1) Sherwin-Williams Company
 - 2 coats Pro Mar 200 Latex Eg-Shel B20W200

- (2) PPG Industries
 - 1 coat 6-2 Emulsion Sealer
 - 1 coat Wall Hide No. 80-6

- (3) Glidden
 - 1 coat PVA Primer Sealer (tinted to 1/2 wall color)
 - 1 coat Spread Stain No. 3400

h. Gypsum Wallboard - Special Coating:

Gypsum wallboard scheduled to receive special coating shall be painted with one of the following systems:

- (1) Sherwin-Williams Company
 - 1 coat Pro Mar 200 Primer B28W200
 - 2 coats Tile Clad II Epoxy B62 Series

- (2) PPG Industries
 - 1 coat Pit Glaze Pigmented Sealer
 - 2 coats Pit Glaze

- (3) Glidden
 - 1 coat Spred Primer Sealer No. 3416
 - 2 coats Glid-Tile Epoxide

i. Wood (Stained): All wood scheduled to be stained shall be painted with one of the following:

- (1) Sherwin-Williams Company
 - 1 coat Interior Oil Stain A48 Series
 - 1 coat Oil Base Varnish A66V91 Gloss
 - 1 coat Oil Base Varnish Stain

- (2) PPG Industries
 - 1 coat Rez Stain
 - 2 coats Rez Varnish Satin Finish

- (3) Glidden
 - 1 coat 200 Series Spred Wood Stain
 - 2 coats Spred Urethane Stain Varnish 10

j. Wood (Painted):

All wood scheduled to be painted shall be painted with one of the following systems:

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- (1) Sherwin-Williams Company
 - 1 coat Wall and Wood Primer B49W2
 - 1 coat Pro Mar 200 Alkyd Semi Gloss
- (2) PPG Industries
 - 1 coat 6-6 Enamel Undercoat
 - 1 coat 27-109 Semi Gloss Enamel
- (3) Glidden
 - 1 coat Spred Wood Y-555, Enamel Undercoat
 - 1 coat Spred Lustre 4600 Series Semi Gloss Enamel

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Clean Up:

1. During progress of the work, do not allow the accumulation of empty containers or other excess items except in areas specifically set aside for that purpose.
2. Prevent accidental spilling of paint materials and, in event of such spill, immediately remove all spilled material and the waste or other equipment used to clean up the spill, and wash the surfaces to their original undamaged condition.
3. Upon completion of this portion of the work, visually inspect all surfaces and remove all paint and traces or paint from surfaces not scheduled to be painted.

END OF SECTION

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SECTION 09999 - COLOR SCHEDULE

PART 1.00 - GENERAL

1.01 Quality Assurance:

Quality assurance is described in pertinent other sections of this project manual.

1.02 Definitions:

Definitions are listed in pertinent other sections of this project manual.

1.03 Submittals:

A. Samples, Color Charts, Manufacturer's Data: Samples, color charts, manufacturer's data and other submittals are described in pertinent other sections of this project manual.

B. Color Schedule:

1. Upon written request from the Contractor and after receipt and review of all samples, color cards, and manufacturer's data pursuant to color and finishes, the Architect will prepare for the Contractor's use, a color schedule for each space scheduled to receive any finish material and a color board illustrating each color described in the color schedule. Colors may vary from space to space.

2. The color board and/or copy of the color schedule shall be kept at the project site until date of Architect's Final Certificate and at that time it shall be returned to the Architect.

1.04 Product Handling:

Product handling is described in pertinent other sections of this project manual.

1.05 Job Conditions:

Job conditions are described in pertinent other sections of this project manual.

PART 2.00 - PRODUCTS

2.01 Materials:

Materials and manufacturers are described in pertinent other sections of this project manual.

2.02 Fabrication:

Fabrication, measurement and mixing of products and materials are described in pertinent other sections of this project manual.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

Installation of various finish materials and products is described in pertinent other sections of this project manual.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Protection and Cleaning:

Protection and cleaning of the various finishes are described in pertinent other sections of this project manual.

END OF SECTION

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SECTION 09680 - FLOOR CARPETING (Part of Additive Alternate No. 3)

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualifications of Manufacturers:

Manufacturers of the products of this section shall have been successfully engaged in the manufacture of the specific item to be furnished by them for a period of not less than five years immediately prior to furnishing the products for this work.

B. Qualifications of Installer:

The installer of the products of this section shall have been successfully engaged in the business of installing carpet floor covering and related items for a period of not less than five years immediately prior to performing the work of this section.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance: Prior to commencing work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Samples: Furnish samples to the Architect for review as follows:

1. Floor Carpet: 18" x 18" for each type and color described hereinafter.
2. Carpet Cushion: 18" x 18".
3. Accessories: full size x 12" long for each accessory described hereinafter.

C. Shop Drawings: Accompanying the sample submittal, submit shop drawings to the Architect for review, showing locations of all seams and accessory items.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

A. Temperature:

1. Maintain temperature at not less than 50°F. throughout installation operations and for at least seven days after completion of carpet work.
2. If temporary heaters are used, they shall be vented to the outside.

B. Ventilation: Where natural ventilation is questionable, provide ventilation by use of sparkproof fans.

C. Lighting: Maintain lighting of not less than three watts per square foot of floor area in all areas where installation operations are in progress.

PART 2.00 - PRODUCTS

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2.01 Materials: **NOTE: Provide \$34 S.Y. Cash Allowance for purchase and delivery of carpet**

A. Type 1 Carpet: choose one (PART OF ADD ALTERNATE NO. 7)

1. Accolade (18 x 18 Modular) (P/8112) by Milliken Carpet:
 - Construction: tufted, textured loop pile
 - Face fiber: 100% Milliken Certified WearOn Nylon, twisted and heat set for maximum performance
 - Soil Protectant: MillGuard
 - Bleach/Stain Resistance: Color Seal
 - Antimicrobial: BioCare
 - Dye Method: Militron
 - Finished Face Weight: 26 oz/sq yard (874.2 g/sq m)
 - Gauge: 1/10 in. (39 4/10 cm)
 - Rows: 14.14/in (55 7/10 cm)
 - Tufts: 141.4/sq in (2194.6/100 sq cm)
 - Finished Pile Height: 0.156 in. (3.96 mm) avg.
 - Average Density: 6,000
 - Density Factor: 381,493
 - Standard Backing: PVC-free EverWear hardback
 - Nominal Tool Thickness: 0.32 in (8.13 mm)
 - Tile size: 18 18 in (457.2 x 457.2 mm)
 - Quantity per carton: 20 tiles or 5 sq yds (4.18 sq m)
 - Flammability (Radiant Panel ASTM E 648): >+0.45 (class I)
 - Smoke Density (NFPA 258-T or ASTM E 662): <= 450
 - Methanamine Pill Test (CPSC FFF 1 70 OR ASTM D 2859): Self-extinguishing
 - Lightfastness (AATCC 168): >=4.0 at 80 hrs
 - Crocking (AATCC 165): >=4.0 wet or dry
 - Static Electricity (AATCC 134) 20% R H 70°F: <=3.5 KV
 - Dimensional Stability - Aachener Test (DIN Standard 54318): <=0.2%
 - Recommended Traffic: Heavy commercial
 - Recommended Maintenance: Millicare
 - CRI Indoor Air Quality: Product type 82236937
 - Warranties: 15 year wear, lifetime antistatic, electronic office

2. Cubic (50cm x 50cm) by Interface:

Cubic	Glasbac Tile	
Product No.	1380102500	
Product construction	Tufted textured loop	
Standard colorline	10	
Yarn system	Aquafil Forza	
Dye method	100% solution dye	
Soil Protection	Protekp	
Antimicrobial	(AATC 138 washed) (AATCC 174 Parts 2&3) Intersept	
Secondary backing	GlasBac Tile	
Product specifications:	U.S.	Metric
Yarn weight	18oz/yd ²	610.0 g/m ²
Machine gauge	1/12 in	47.2 ends / 10cm
Pile Height	0.112 in	2.8 mm
Stitches	8.16/in	32.13 ends/10 cm
Pile Density	5893	
Weight Density	106074	
Total weight	143 oz/yd ²	4849.0 g/m ²
Total thickness	0.275 in	7.0 mm
Size:	19.69 in x 19.69	50cm x 50cm

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Performance specifications

Radiant panel	(ASTME-648) Class 1
Smoke density	(ASTME-662) ≤ 450
Lightfastness	(AATCC 16-E) ≥ 4.0 @ 60 AFU's
Static	(AATCC-134), 3.0 KV
Dimensional Stability	AACHEN Din 54318<10%
Backing options	GlasBac Tile

C. Entrance Carpet: Design is based on Interface's "Super Flor".

(PART OF ADD ALTERNATE NO. 3)

1. Specifications: Super Flor
 Modular, 6090002504
 50cm x 50cm
 Glasbac Tile

Yarn System	82.5% nylon, 17.5% polyester
Color System	yarn dyed
Life time Antimicrobial	
Soil/Stain Protection	
Pile Height	.165 in., 4.2 mm
Pile Density	8945
Weight Density	366,764

2. Colors: may vary from space to space; see Section 09999 of this project manual.

D. Adhesive: Carpet adhesive shall be release type which will allow removal of carpet without damage, comply with flame spread and smoke density requirements of Type 1 carpet and be only that which is recommended by the manufacturer of the carpet being installed.

E. Accessories: Reducers: shall be fabricated from homogeneous vinyl and of the types shown on the drawings; color shall be as selected by the Architect to complement color of carpet with which it is used.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Preliminary Requirements: Surfaces to receive carpet shall be within the allowable variations of 1/8" in 6' and 1/16" in 1', dry and broom clean.

B. Laying:

1. Test Sample: In the presence of the Architect, install a test sample not less than 10' x 10' to demonstrate adhesion and removal capability of the bonding system.

2. Reducers: Install reducers where carpet terminates higher than contiguous abutting floor finish, applying adhesive in accordance with the manufacturer's instructions contained in the adhesive packaging material; reducers shall be accurately aligned, with tight joints at abutting surfaces; intermediate joints in reducers will not be permitted.
3. Carpet:
 - a. Prior to application of adhesive, cut and fit carpet for each area.
 - b. Apply adhesive in accordance with manufacturer's instructions contained in the adhesive packaging material.
 - c. Install carpet with tightly butted seams and edges true to line; roll to a uniform bond, eliminating all air pockets.
4. Carpet:
 - a. Install in locations shown on the drawings using continuous lengths and as broad width as possible to minimize seams.
 - b. Cut edges shall be trued and appropriately treated to form invisible and non-ravelling joints where exposed.
 - c. Carpet shall be installed in accordance with manufacturer's recommendations for seam technique and for proper amount of stretch in width and length.
 - d. Transition material shall be installed in the locations shown on the drawings and shall be exposed to view type or concealed type as shown thereon; installation shall be in accordance with manufacturer's recommendations contained in the material packaging.
 - e. Reducers shall be installed in the locations shown on the drawings and shall be of the designs shown thereon; installation shall be in accordance with manufacturer's recommendations contained in the material packaging.

3.03 Field Quality Control:

A. Inspection:

1. Materials and workmanship at all times will be subject to inspection by the Architect or his representative.
2. Installed carpet shall be free of spots, dirt, soil, and shall be without tears, frays or pulled tufts.

B. Cleaning:

1. Reducers: Upon completion of the installation, remove excess adhesive and blemishes from the reducers and adjacent surfaces using a neutral type cleaner.
2. Carpet: Upon completion of the installation, remove adhesive from face of carpet and adjacent surfaces; vacuum all carpets with a commercial machine with rotating agitator or beater in nozzle; remove soiled spots using only cleaner which is recommended by the manufacturer of the carpet installed; remove blemishes from adjacent surfaces.

- C. Protection: Cover carpet and accessories with a non-staining paper, masked in place, remove just prior to final inspection, vacuum carpet and clean all exposed to view accessories as recommended by their manufacturers.

END OF SECTION

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SECTION 10001 - FIRE EXTINGUISHERS AND CABINETS

PART 1.00 - GENERAL

1.01 Quality Assurance: The products of this section shall be the same manufacturer.

1.02 Definitions: Omitted

1.03 Submittals:

A. Manufacturer's Data:

Before any products of this section are delivered to the project site, submit to the Architect for review, manufacturer's detailed descriptive and specification data for the products described hereinafter.

B. Shop Drawings:

After review of the manufacturer's data, but prior to delivery of the products of this section to the project site, submit manufacturer's shop drawings to the Architect for review.

1.04 Product Handling:

A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted.

PART 2.00 - PRODUCTS

2.01 Fire Extinguishers and Cabinets:

(Prior to ordering, verify type and size with local Building Official.)

A. Fire Extinguishers:

1. Type 1: to be 4A60BC. (See Drawing for locations.)
 - a. Design is based on Cosmic, as manufactured by J.L. Industries, Bloomington, MN for cabinet mounting.
 - b. The following are acceptable (or equal):
 - (1) _____ as manufactured by Larsen's Manufacturing Company, Minneapolis, MN for cabinet mounting.
 - (2) _____ as manufactured by Potter-Roemer
 - (3) _____ as manufactured by Amerex.
2. Type 2: To be 40 B:C Regular Dry Chemical

Fire extinguisher type 2 shall be the same MFS as type 1.

- B. Fire Extinguisher Cabinets: (Note: Semi-recessed cabinets acceptable.)
 - 1. Manufacturer:

Design is based on Clear Vu Model 1525 with Style F25 door and glazing, as manufactured by J.L. Industries, Bloomington, MN.
 - 2. The following are acceptable:
 - a. Cameo series model ALC2409-R as manufactured by Larsen's Manufacturing Company, Minneapolis, MN.
 - b. Bubble cabinet model no. 118 Al-Alum, full bubble, as manufactured by Muckle Manufacturing, Owatonna, MN.
 - c. Bubble cabinet, model no. 7340-BA as manufactured by Potter-Roemer of Cerritos, CA.
- C. Wall Mounting Brackets: shall be manufacturer's standard for fire extinguishers being installed.
- D. Colors:
 - 1. Fire Extinguisher Cabinets:
 - a. Interior of Cabinet: white baked enamel.
 - b. Trim: aluminum.
 - c. Vision Panel: clear.
 - 2. Wall Mounting Brackets: manufacturer's standard bracket.
- E. Anchors: shall be manufacturer's standard for each particular installation.

2.02 Fabrication: Omitted.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Cabinets and Wall Brackets:

Install cabinets and wall brackets in the locations and at the heights shown on the drawings, anchoring securely in accordance with the details of the manufacturer of the products being installed.

B. Fire Extinguishers:

After cabinets and wall brackets are in place install one fire extinguisher in each cabinet and each wall bracket.

C. Filling and Servicing:

All fire extinguishers shall be filled and tagged according to NFPA 10 Guidelines and federal, state and local codes.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Cleaning:

Upon completion of the installation, clean all surfaces as recommended by the manufacturer of the products installed.

END OF SECTION

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SECTION 10260 - WALL AND CORNER GUARDS

PART 1.00 - GENERAL

1.01 Quality Assurance:

A. Qualification of Manufacturer:

The manufacturer of the products of this section shall have been successfully engaged in the business of manufacturing and fabricating plastic laminate toilet partitions for a period of not less than five years immediately prior to furnishing the products of this section.

B. Special Warranty:

As a condition of acceptance, furnish a written warranty agreeing to replace products found to be defective as a result of inferior grade of materials or inferior workmanship within ten years of date of Architect's Final Certificate.

1.02 Definitions: Omitted

1.03 Submittals:

A. Proof of Compliance:

Prior to commencing any work of this section, submit in triplicate to the Architect:

1. a certified statement of qualifications and
2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.

B. Shop Drawings:

Prior to commencing fabrication of the products of this section, submit shop manufacturer's shop drawings to the Architect for review, fully dimensioned, showing actual field measurements and showing method of installation and anchorage.

C. Manufacturer's Data:

Accompanying the shop drawing submittal, furnish the Architect for review, manufacturer's detailed materials and fabrication specifications and installation recommendations; include catalogue cuts of all hardware, anchors and accessories.

D. Color Card:

In addition to the above submittals and accompanying same, furnish Architect manufacturer's standard color cards.

E. Samples:

After review of the above submittals, but prior to commencing fabrication, submit to the Architect for review, samples for each color required; samples shall be representative of color, texture and surface reflectivity.

F. Templates: Prior to commencing installation, the Contractor shall be furnished setting drawings and templates by the manufacturer of the products of this section.

G. Special Warranty: Submit as hereinbefore described in triplicate.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.

- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions:

Prior to commencing installation of the products of this section, all finish flooring, wall finishes and plumbing fixtures shall be in place.

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Door Frame Guards: (Not used)
 - 1. Design is based on "Pro-Tek", model DFG-30 by Pawling Corporation, Wassaic, New York.

 - 2. The following are acceptable:
 - a. Door frame guard model #1700 by IPC, Muskego, WI.
 - b. Door frame guard model #CG-2164 by American Floor Products Co., Rockville, MD.

- B. Corner Guards:
 - 1. Design is based on "Pro-Tek", model CG-10/TC-10 (4') by Pawling Corporation, Wassaic, New York.

 - 2. The following are acceptable:
 - a. Corner guards model #150 by IPC, Muskego, WI.
 - b. Corner guards model #CG-2157 by American Floor Products Co., Rockville, MD.

- C. Wall Guards: (Not used)
 - 1. Design is based on "Pro-Tek", model WG-8 by Pawling Corporation, Wassaic, New York.

 - 2. The following are acceptable:
 - a. Wall guards model #1650 by IPC, Muskego, WI.
 - b. Wall guards model #WG-2181 by American Floor Products Co., Rockville, MD.

- D. Colors: shall be as selected by the Architect and may differ from space to space.

- E. Hardware and Accessories: As supplied by manufacturer.

- F. Anchorage and Fasteners:

All anchorages and fasteners shall be manufacturer's standard; use theft-resistant type where heads or nuts are exposed to view in finished works.

2.02 Fabrication:

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Fabricate all door frame guards, corner guards and wall guards to the sizes shown on the drawings and in accordance with the standards and specifications contained in the published literature of their manufacturer.

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

3.02 Installation:

A. Door Frame Guards, Corner Guards and Wall Guards:

Door frame guards, corner guards and wall guards shall be installed in the locations shown on the drawings, and in accordance with the details shown thereon, straight, plumb and with all horizontal lines level and rigidly secured in place. Provide in wall blocking at all wall anchor points.

3.03 Field Quality Control:

A. Inspection:

Materials and workmanship at all times will be subject to inspection by the Architect or his representative.

B. Cleaning:

Just prior to final inspection, remove maskings and labels; clean all surfaces as recommended by their manufacturer.

END OF SECTION

SECTION 10800 - REST ROOM, SHOWER ROOM AND LOCKER ROOM
ACCESSORIES

PART 1.00 - GENERAL

1.01 Quality Assurance:

- A. Qualifications of Manufacturer: The manufacturer of the products of this section shall have been successfully engaged in their manufacture for a period of not less than five years immediately prior to furnishing the products of this section.
- B. Special Requirement: Unless specifically noted otherwise, all accessories shall be the products of the same manufacturer.

1.02 Definitions: Omitted

1.03 Submittals:

- A. Proof of Compliance: Prior to commencing any work of this section, submit in triplicate to the Architect:
 - 1. a certified statement of qualifications and
 - 2. a certified statement to the effect that all products proposed to be used meet the requirements of this section.
- B. Manufacturer's Data: Prior to delivery of any products of this section to the project site, submit to the Architect for review, proposed manufacturer's detailed descriptive and specification data and installation instructions for each accessory described hereinafter.

1.04 Product Handling:

- A. Protection: Protect the products of this section from damage during delivery, storage and after installation.
- B. Replacements: In the event of damage, immediately make all repairs and replacements as directed by the Architect.

1.05 Job Conditions: Omitted

PART 2.00 - PRODUCTS

2.01 Materials:

- A. Materials:
 - 1. Accessory marked 1, Roll Paper Holder (with theft resistant spindle):
One of the following:
 - a. Bradley, No. 5241-52
 - b. Bobrick, No. B-27460
 - c. ASI, No. 7305-2-R009
 - 2. Accessory marked 2, Towel Dispenser with Waste Receptacle:
One of the following:
 - a. Bradley, No. 237-10 (semi-recessed)
 - b. Bobrick, No. B-3942 (semi-recessed)
 - c. ASI No. 0469-2 (semi-recessed)

3. Accessory marked 3, Mirror Type 1:
One of the following:
 - a. Bradley, No. 700, 18" x 24"
 - b. Bobrick, No. B-165 x 1824
 - c. A&J, No. U-710, 18" x 24"

4. Accessory marked 4, Mirror Type 2:
One of the following:
 - a. Bradley, Model 740, 16" x 30"
 - b. Bobrick, No. B-293, 16" x 30"
 - c. A & J, No. U-704, 16" x 30"

5. Accessory marked 5, Soap Dispenser (in counter top):
 - a. Bobrick, No. B-8816

6. Accessory marked 6, Napkin Disposal:
One of the following:
 - a. Bradley, No. 4722-15
 - b. Bobrick, No. B-254

7. Accessory marked 7, Towel Rack Type 1: **(Not Used)**
 - a. Bobrick No. B7676

8. Accessory marked 8, Grab Bar Type 1:
One of the following:
 - a. Bradley, No. 8122-00242
 - b. Bobrick, No. B-6206.99 x 42"
 - c. A & J, No. UG30A x 42"

9. Accessory marked 9, Grab Bar Type 2:
One of the following:
 - a. Bradley, No. 8122-00236
 - b. Bobrick, No. B-6206.99 x 36"
 - c. A & J, No. UG30A x 36"

10. Accessory marked 10, Mop Holder with Shelf:
(Provide one; locate in Space 116)
 - a. Bradley, No. 9984, 36" long
 - b. Bobrick, No. B-224 x 36" long
 - c. ASI, No. 1315

11. Accessory marked 11, Diaper Changer: **(Not Used)**
One of the following:
 - a. Koala Bear Kare-Horizontal
 - b. Baby Quick Change, No. 100E
 - c. ASI, No. 9010

12. Accessory marked 11, Shower Curtain Rod: **(Not Used)**
 - a. Bobrick No. B-6047

13. Accessory marked 13, Unframed Mirror:
 - a. Unframed mirror width of vanity x 4' high.

14. Accessory marked 14, Shower Grab Bar: **(Not Used)**
 - a. ASI No. 3200

- Accessory marked 15, Toothbrush Holder (**Not Used**)
15. One of the following:
- a. ASI No.
 - b. Bradley No.
 - c. Bobrick No. B7679
16. Accessory marked 16, Recessed Soap Dish: (**Not Used**)
- a. Bobrick No. B4390
17. Accessory marked 17, Towel Dispenser: Locate as directed by owner next to sinks. (**PROVIDE ONE IN SPACE 204**)
- One of the following:
- a. Bradley, No. 252
 - b. Bobrick, No. B-2621
 - c. ASI, No. 215
18. Accessor marked 18, Medicine Cabinet. (**Not Used**)
- a. Bobrick, No. 398
19. Accessory marked 19, Robe Hook (**Not Used**)
- One of the following:
- a. Bradley, Model
 - b. Bobrick, No. B7671
 - c. ASI, No. 1204
20. Accessory marked 20, Flip Down Shower Seat: (**Not Used**)
- One of the following: Provide blocking in wall.
- a. ASI No.
 - b. Bradley No.
 - c. Bobrick No. B5181
21. Accessory marked 21, Soap Dispenser: (**Not Used**)
- One of the following:
- a. Bradley No.
 - b. Bobrick No. B-2111
 - a. ASI
22. Accessory marked 22, Circular Waste Chute: (**Not Used**)
- One of the following:
- a. Bradley No.
 - b. Bobrick No. B-529
 - c. ASI No.

B. Fastenings: Anchors and fastenings shall be manufacturer's standard unless otherwise shown on the drawings.

2.02 Fabrication: Omitted

PART 3.00 - EXECUTION

3.01 Inspection:

Contractor shall examine the areas and conditions under which the products of this section are to be installed; notify the Architect in writing of conditions detrimental to the installation of the products of this section and the completion of the work; do not proceed with the work until unsatisfactory conditions have been corrected.

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3.02 Installation:

Install accessories in the locations shown on the drawings and at the heights shown hereon and in accordance with the manufacturer's instructions contained in the product packaging.

3.03 Field Quality Control:

- A. Inspection: Materials and workmanship at all times will be subject to inspection by the Architect or his representative.
- B. Cleaning: Prior to final inspection, remove maskings and labels, clean all accessories as recommended by their manufacturer.

END OF SECTION

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