

Forsyth County Dental Suite Alterations Winston-Salem, North Carolina

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Forsyth County Dental Suite Alterations
Winston-Salem, North Carolina

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INSTRUCTIONS TO BIDDERS

1. USE OF CONTRACT DOCUMENTS

These Contract Documents include a complete set of Contract Forms, which are for the convenience of Bidders and are not to be detached from the Contract Documents.

2. TECHNICAL SPECIFICATIONS

Anything mentioned in the Technical Specifications and not shown on the Drawings or not mentioned in the Technical Specifications and shown on the Drawings shall be of like effect as if mentioned in both. In cases of a difference between the Drawings and Technical Specifications, the Technical Specifications shall govern. In case of any discrepancy in the Drawings or Technical Specifications the matter shall be immediately submitted to the Architect or Engineer without whose decision said discrepancy shall not be adjusted by the Contractor.

3. MATERIAL SPECIFICATION

The name of a certain brand, make, manufacturer or definite specification is to denote the quality standard of the article desired and not to restrict competitive bidding. It is set forth and conveyed to prospective Bidders the general style, type, character and quality of the article desired. Bidders; however, may submit to the Architect or Engineer evidence that proposed substitutions are fully up to standards specified and obtain his approval at least three (3) days before the due date for bids.

4. ALTERNATE BIDS

No Alternate Bids will be considered unless Alternate Bids are specifically requested by the Technical Specifications and/or indicated in the Proposal Section of the Bid.

5. COLLUSIVE AGREEMENTS

Each Bidder submitting a Bid to Forsyth County for any portion of work contemplated by the documents on which bidding is based shall execute and attach thereto an Affidavit substantially in the Form provided herein to the effect that he has not entered into a collusive agreement with any other person, firm or corporation in regard to any Bid submitted.

6. INSPECTION OF SITE

Each Bidder shall visit the site of the proposed Work and fully acquaint himself with the existing conditions relating to the construction Project. Each Bidder shall fully inform himself as to the facilities involved and the difficulties and restrictions attending the performance of the Contract. The Bidder shall examine and familiarize himself with the Technical Specifications and Drawings. The Contractor, by execution of the Contract, shall in no way be relieved of any obligation under the Contract due to his failure to receive or examine any Form or legal instrument or to visit the site and acquaint himself with the existing conditions. The Architect or Engineer will be justified in rejecting any claim based on facts that the Bidder should have been aware of as a result of his site inspection.

7. INTERPRETATION OF ADDENDA

No oral interpretation will be made to any Bidder as to the meaning of the Contract Documents or any part thereof. Every request for such an interpretation shall be made in writing. Any inquiry received seven (7) days or more prior to the date fixed for opening of Bids will be given consideration. Every interpretation made to a Bidder will be in the form of Addenda to the Contract Documents and, when issued, will be on file at least five days (5) before the Bids are opened. In addition, all Addenda will be provided to each Firm holding Contract Documents, but it shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such

Addenda shall become part of the Contract and all Bidders shall be bound by such Addenda whether or not received by the Bidders.

8. **Not used.**

9. **BID GUARANTEE - (Required for formal bid projects)**

- a. Each proposal shall be accompanied by a cash deposit, a cashier's check or a certified check on some bank or trust company insured by the Federal Deposit Insurance Corporation in an amount not less than five percent (5%) of the proposal; or in lieu thereof, a bidder may offer a bid bond executed by a corporate surety licensed under the laws of North Carolina to execute such bond; conditioned that the surety will upon demand forth with make payment to the obligee upon said bond if the bidder fails to execute the contract in accordance with the bid bond, and upon failure to forthwith make payment, the surety shall pay to the obligee an amount equal to the amount of said bond. The deposit shall be retained if the successful bidder fails to execute the contract within ten days (10) after notice of award or fails to give satisfactory surety required herein. **Bid Guaranties should be sealed in a separate envelope, marked as such, and attached to the envelope containing the bidder's proposal.** Checks are to be made payable to the City of Winston-Salem. Facsimile bid bonds will not be accepted.
- b. A refund of any cash deposits, made by unsuccessful bidders, will be issued as soon as the bids have been awarded by Forsyth County.

10. **PREPARATION AND SUBMISSION OF BIDS**

- a. All Bids must be submitted on the Forms supplied by Purchasing or the Owner's Consultant and shall be subject to all requirements of the Contract Documents including the Drawings and these Instructions to Bidders. All Bids must be regular in every respect; and no interlineations, excisions or special conditions shall be made or included in the Bid Form by the Bidder.
- b. Bid Documents, including the Bid and the Non-Collusion Affidavit, shall be sealed and clearly labeled with the Project name, Bidder's license number, date and time of opening.
- c. Forsyth County may consider as irregular any Bid on which there is an alternate of, or departure from, the Bid Form hereto attached and at its opening may reject the same.
- d. If the Contract is awarded, it will be awarded to the lowest responsible Bidder taking into consideration quality, performance and time specified in the Proposal for the performance of the Contract and will include selective Alternate Bid items, if any.

11. **CORRECTIONS**

Do not use 'white out' or correction tape. Cross through errors and initial the corrections.

12. **TIME FOR RECEIVING BIDS**

Bids received prior to the advertised hour of opening will be kept securely sealed. The County Representative whose duty it is to open them will decide when the specified time has arrived and no Bid thereafter will be considered.

13. **MINIMUM NUMBER OF BIDS (FORMAL CONTRACTS ONLY)**

North Carolina General Statute 143-129 and 143-132 prohibits the awarding of a formal contract unless at least three (3) competitive bids are received from reputable and qualified contractors.

Therefore, if fewer than three (3) such bids are received, they will not be opened but returned to the contractors; and the bid will either be re-advertised or cancelled until further notice.

Formal contract thresholds are as follows:

County or state funded projects: \$500,000.00

14. OPENING OF BIDS

At the time and place fixed for opening of Bids, the County Representative will cause to be opened and publicly read aloud every Bid received within the time set for receiving Bids irrespective of any irregularities therein. Bidders and other persons properly interested may be present, in person or by representative.

15. WITHDRAWAL OF BIDS

Bids may be withdrawn on written or telegraphic request dispatched by the Bidder in time for delivery in the normal course of business prior to the time fixed for opening. Bids may also be withdrawn *after* the public opening if an unintentional, substantial error is made by the Contractor and it can be proven that the error was arithmetic or an omission as opposed to judgment. The request to withdraw a Bid must be made in writing to the County Representative within seventy-two hours (72) after the opening of Bids. Any Bidder considering a withdrawal should acquaint himself with the provisions of North Carolina General Statute 143-129.1.

16. AWARD OF CONTRACT: REJECTION OF BIDS

- a. The Contract will be awarded to the lowest responsible Bidder complying with the conditions of the Invitation for Bids. The Bidder to whom the award is made will be notified at the earliest possible date. Forsyth County; however, reserves the right to reject any or all Bids and to waive any informalities in the Bidding procedures whenever such rejection or waiver is in the best interest of the County.
- b. The Successful Bidder shall be licensed to do business in the State of North Carolina in an amount of not less than one-hundred percent (100%) of the Contract sum. For project awards over \$40,000, Bidders are hereby notified that they must be properly licensed as required by Chapter 87 of the North Carolina General Statutes to bid and perform the work described herein.
- c. Forsyth County reserves the right to consider as unqualified to do the work of general construction any Bidder who does not habitually perform with his own forces a minimum ten percent (10%) of the Work involved in construction of the improvements embraced in this Contract.

17. EXECUTION OF AGREEMENT

- a. Within ten (10) days after award and presentation of Contract Documents, the Successful Bidder shall execute and deliver to Forsyth County a Contract in the Form included in the Contract Documents in such number of copies as the County may require.
- b. The failure of the Successful Bidder to execute the Contract within ten (10) days after award, or within such extended period as the County may grant, constitutes a default and the County may either award the Contract to the next lowest responsible Bidder or re- advertise for Bids. If the Successful Bidder fails to execute the Contract or provide satisfactory surety, the County may retain the Bid Deposit (if requested) as outlined in these Instructions.

18. PERFORMANCE AND PAYMENT BONDS – (ONLY Required for projects valued \$300,000 or more)

- a. Having satisfied all conditions of the award set forth elsewhere in these documents, the successful bidder(s) shall furnish, within ten (10) days after award, the following:

1. A Performance Bond in the amount of one hundred percent (100%) of the Construction Contract amount, conditioned upon the faithful performance of the Contract in accordance with the plans, specifications and conditions of the Contract. Such bond shall be solely for the protection of the contracting body which awarded the Contract.
 2. A Payment Bond in the amount of one hundred percent (100%) of the Construction Contract amount, conditioned upon the prompt payment for all labor or materials for which a Contractor or Subcontractor is liable. The Payment Bond shall be solely for the protection of the persons furnishing materials or performing labor for which a Contractor or Subcontractor is liable.
- b. Such bond shall be in the same form as that indicated in the contract documents and shall bear the same date subsequent to that of the agreement. The current Power of Attorney for the person who signs for any surety shall be attached to such bond. This bond shall be signed by a guarantee or surety company licensed to do business in the State of North Carolina **and the agent MUST be a North Carolina resident.**
 - c. The failure of the successful bidder to supply the required bonds within ten (10) days after award, or within such extended period as the Owner may grant, shall constitute a default; and the Owner may either award the contract to the next lowest responsible bidder or re-advertise for bids. If the successful bidder fails to provide satisfactory surety, the Owner shall retain the bid guarantee as outlined in these instructions.

19. OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

The Contractor agrees that in carrying out this Contract he will comply with all applicable federal, state and local laws specifically including, without limitations, the Occupational Safety and Health Act of 1970.

20. EOUAL EMPLOYMENT OPPORTUNITY

Attention of Bidders is particularly called to the requirement for ensuring that employees and applicants for employment are not discriminated against because of race, color, religion, gender, age, political affiliation, national origin or handicap.

21. AMERICAN WITH DISABILITIES ACT (ADA)

The Contractor shall comply with the provisions of the Americans with Disabilities Act (ADA) and all rules and regulations promulgated thereunder. The Contractor hereby agrees to indemnify Forsyth County from and against all claims, suits, damages, costs, losses and expenses in any manner arising out of or connected with the failure of the Contractor, its Subcontractors, agents, successors, assigns, officers or employees to comply with the provisions of the ADA or rules and regulations promulgated thereunder.

22. COMPLIANCE WITH IMMIGRATION LAWS

"It is the expectation of Forsyth County that the Provider will comply, and the Provider agrees to comply, with all applicable federal immigration laws in its hiring and contracting practices relating to the services covered by this Contract involving County funds, as outlined in the Resolution adopted by the Forsyth County Board of Commissioners at its regular meeting of October 23, 2006." The language setout above shall be included in the Successful Bidder's Contract with the County and, further, said language shall also be included in any of the Successful Bidder's Contracts with his Subcontractors.

23. INDEMNIFICATION PROVISION

The Contractor shall be responsible for any damages caused by him, his workmen or his

Subcontractors to property of the County. He shall make good, in an approved manner, at his own expense, any such loss, damage or injury without cost to the County. The Contractor shall also assume all responsibility to maintain all existing protection, provide, and maintain all such additional protection as required by governing laws, regulations, ordinances and the safety of personnel and visitors.

24. MATERIALS AND WORKMANSHIP

- a. The Contractor shall furnish to the Architect or Engineer for approval the manufacturer's detailed specifications for all machinery, mechanical and or other specific equipment which he contemplates installing, together with full information as to the type, performance characteristics and all other information as required and shall likewise submit for approval as required, full information concerning all other materials or articles which he proposes to incorporate in the Work.
- b. Machinery, mechanical and other equipment, materials or articles installed or used without such prior approval shall be at the risk of subsequent rejection.
- c. Materials specified by reference to the number or symbol of a specified standard such as ASTM standard, a Federal Specification or other similar standards shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Invitation for Bids except as limited to type, class, grade or modified in the Technical Specifications shall have full force and effect as though printed therein.
- d. Forsyth County or its agents may require the Contractor to dismiss from the Work such employee or employees as the Architect or Engineer or Owner may deem incompetent, careless or insubordinate.

25. USE OF PREMISES

- a. The Contractor shall confine his equipment, storage of materials and construction operations to the Construction Limits as shown on the Drawings and as prescribed by ordinances or permits or as may be desired by Forsyth County and shall not unreasonably encumber the site or public rights-of-way with his materials and construction equipment.
- b. The Contractor shall comply with all reasonable instructions of the Architect or Engineer and the ordinances and codes of local government regarding signs, advertising, traffic, fires, explosives, danger signals and barricades.

26. UTILITIES

- a. The Contractor shall use special care in working around and near all existing utilities that are encountered during construction, protecting them whenever necessary so that they will give uninterrupted service. He shall be responsible to the County for all damages by him to said utilities and for all further damage due to interrupted service.
- b. In the event that utility services are interrupted by the Contractor, the Contractor shall promptly notify the County and the utility provider and shall cooperate with the County and/or County's representative and the utility provider in the restoration of service in the shortest time possible.
- c. Existing fire hydrants and fire connections shall be kept accessible to the Fire Department at all times.
- d. Prior to submitting his Bid, the Contractor shall make a determination as to the nature and extent of the utility facilities including proposed adjustments, new facilities or temporary work to be performed by the utility Owner/his representative; and as to whether or not any utility work is

planned by the utility in conjunction with the Project construction. The Contractor shall consider in his Bid all of the permanent and temporary utility facilities in their present or relocated position, whether or not specifically shown on the Plans. It will be the Contractor's responsibility to anticipate any additional costs to him resulting from such utility work and to reflect these costs in his Bid for the various items in the Contract.

- e. No additional compensation will be allowed for delays, inconvenience or damage sustained by the Contractor due to interference from said utility facilities or the operation of moving them and any such delay, inconvenience or damage shall not constitute a change in condition.
- f. Where changes to utility facilities are to be made solely for the convenience of the Contractor, it shall be the Contractor's responsibility to arrange for such changes and the Contractor shall bear all costs of such changes.
- g. In the event the Contractor damages utilities belonging to the City of Winston-Salem, he will be required to immediately notify the Utilities Construction and Maintenance Division. The damage will be repaired by the City of Winston-Salem at the expense of the Contractor
- h. The Contractor shall have no claims whatsoever against Forsyth County for an inconvenience or delay on account of operations by others in performing the above Work.

27. PRECONSTRUCTION CONFERENCE

The attention of Bidders is also called to the fact that a Preconstruction Conference will be held with the Successful Bidder and all known Subcontractors prior to the issuance of a Notice to Proceed. This Conference will cover the Contract provisions pertaining to Labor Standards, if required; related requirements, Contractor's Progress Schedule, Non- Collusion Affidavits, Project Special Provisions, Coordination of Work and other items related to the Contract.

28. TAXES

FEDERAL: The City of Winston-Salem and Forsyth County are exempt from and will not pay Federal Excise or Transportation taxes.

STATE: Applicable North Carolina Sales and Use Taxes shall not be shown on bids but shall be added to invoices as a separate item.

29. RETAINAGE

N.C.G.S. 143-134.1 prohibits retainage on public projects that cost less than \$100,000.00 in total.

For projects over \$100,000.00, the County may retain no more than five percent (5%) per periodic payment owed to the Contractor until the Project is fifty percent (50%) complete. At fifty percent (50%) completion, no further retainage is allowed as long as performance is satisfactory. Release of all retainage is required upon Beneficial Occupancy of the Project or when a Certificate of Substantial Completion is issued. The County may, at its discretion, retain up to two and one-half (2 ½) times the value of remaining Work in order to secure completion or correction of that Work. The County may withhold greater amounts of retainage for unsatisfactory job progress, defective construction not remedied, disputed Work or third-party claims filed against the County or reasonable evidence that a third-party claim will be filed.

30. LIQUIDATED DAMAGES

If the selector contractor fails to achieve final completion of the project within the number of days stated on the Bid Form from the written Notice to Proceed, liquidated damages in the amount of **\$750.00** per calendar day may be assessed by Forsyth County until final completion is achieved.

31. SUPPLEMENTARY INSTRUCTIONS

- a. It is understood and mutually agreed that by submitting a Bid, the Bidder acknowledges that he has carefully examined all documents pertaining to the Work, location, accessibility, general character of the site of the Work and all existing buildings and structures within and adjacent to the site (if applicable: “and acknowledges that County operations will continue on the site and must not be impeded by the Contractor’s operations in any manner.”) and has satisfied himself as to the nature of the Work, the condition of the existing buildings and structures within and adjacent to the site, confirmation of the material to be encountered, the character of the equipment, machinery, plant, any other facilities needed preliminarily to and during the execution of the Work, the general and local conditions, the construction hazards and all other matters including, but not limited to, the labor situation which can in any way affect the Work under this Contract including all safety measures required by the Occupational Safety and Health Act of 1970 and all rules and regulations issued pursuant thereto. It is further mutually agreed that by submitting a Proposal, the Contractor acknowledges that he has satisfied himself as to the feasibility and meaning of the Plans, Drawings, Specifications and all other Contract Documents for the construction of the Work and that he accepts all the terms, conditions and stipulations contained therein and that he is prepared to work in cooperation with other contractors/subcontractors performing work on the site.
- b. Each Bidder may, at his own expense, make such additional surveys and investigations, as he may deem necessary to determine his Bid price for the performance of the Work. Any on-site investigation shall be done at the convenience of the County. Any reasonable request for access to the site will be honored by the County.
- c. Forsyth County is committed to providing equal opportunities for participation in all aspects of the County’s contracting and purchasing programs including, but not limited to, participating in procurement contracts for materials, services, construction and repair work activities. The County prohibits discrimination against any person or business in the pursuit of these opportunities on the basis of race, skin color, gender, religion, handicap or national origin and will make every effort to conduct its contracting and purchasing program so as to prevent any discrimination. The County actively seeks to identify qualified minority, handicapped and women-owned business enterprises so as to widen opportunities for participation as providers of goods and services, increase competition and insure the proper and diligent use of public funds. The Contractor shall take affirmative action on complying with all Federal and State requirements as well as County policy.
- d. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the County, the Architect or Engineer and its agents, consultants and employees of the County from and against all claims, damages, losses and expenses including, but not limited to, attorney fees arising out of or resulting from the performance or failure of performance of the Work; provided that any such claim, damage, loss or expense is; (1) attributed to bodily injury, sickness, disease or death or from injury or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom and; (2) is caused in whole or in part by any negligent act or omission by the Contractor, the Contractor’s Subcontractors or the agents of either the Contractor or the Contractor’s Subcontractors. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph D.
- e. Specific items, products and systems called for in the Drawings and/or Specifications are described by manufacturer’s name, model number, etc. and are used to indicate the quality, appearance, size, color, operating characteristics, etc. required for the Project. Substitutions of another manufacturer’s product may be made subject to the following conditions; (1) The Bidder

shall assume the responsibility for any extra costs demanded by the Contractor and any or all Subcontractors resulting from the substitution of the product and; (2) Approved substitutions will be set forth by Addenda to all Bidders prior to Bid opening. If the requested substitution is not included in a published Addenda, it shall not be considered approved and the Bidder's Proposal shall not be based upon the requested substitution.

- f. A Bidder may request that his Bid be withdrawn from consideration after the Bid opening without forfeiture of his Bid Guaranty in accordance with provisions of North Carolina State Statute 143-129.1. Should the Successful Bidder default and fail to execute the Contract, the Contract may be awarded to the next lowest and responsible Bidder. The County reserves the unqualified right to reject any or all Bids. Reasons for rejection may include, but shall not be limited to, the following:
 - 1. If the Proposal Form furnished to the Bidder was not used or had been altered.
 - 2. If the Bidder adds any provisions reserving the right to accept or reject any award. If there are unauthorized additions or conditional Bids or irregularities of any kind which tends to make the Proposal incomplete, indefinite or ambiguous as to its meaning.
 - 3. If the Unit Prices contained in the Bid Schedule are unacceptable to the County.
 - 4. If the Bidder fails to comply with other instructions or requirements stated herein.
- g. In determining the lowest responsible Bidder, the County shall take into consideration the past performance of the Bidder on construction contracts with particular concern given to completion of items, quality of work, cooperation with Subcontractors, suppliers and cooperation with the Architect or Engineer and Owner. Should the County judge that the apparent low Bidder is not the lowest responsible Bidder by virtue of the above information, said apparent low Bidder will be so notified and his Bid Guaranty (if any) returned without penalty.

32. E-VERIFY

Per N.C.G.S. 143-133.3, CONTRACTOR shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, if the CONTRACTOR utilizes a subcontractor, the CONTRACTOR shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.

33. IRAN DIVESTMENT ACT

Provider hereby certifies that it is not on the North Carolina State Treasurer's list of persons engaging in business activities in Iran, prepared pursuant to NCGS § G.S. 147-86.58, nor will Provider utilize on this agreement any subcontractor on such list.

34. DIVESTMENT FROM COMPANIES THAT BOYCOTT ISRAEL

Contractor hereby certifies that it is not on the North Carolina State Treasurer's list of companies engaged in a boycott of Israel in violation of NCGS 147-86.80 et. seq. and that it will not utilize on this agreement any subcontractor on said list.

INSTRUCTIONS FOR COMPLETING CERTIFICATE FOR NORTH CAROLINA SALES TAX FORM

The Owner may apply for a refund for all sales and/or use taxes paid in North Carolina by the Owner's contractors on purchases of building materials, supplies, fixtures and equipment which become a part of or are annexed to any building or structure being erected, altered or repaired under contract with the Owner; and those taxes shall not be included in any bid amounts or the Contract sum. Contractors shall include and must pay all other taxes imposed by governmental authorities which are applicable to the contract work. Examples of property on which sales and use tax have been paid by the Contractor and for which the Contractor will not be reimbursed by the Owner are scaffolding, forms for concrete, fuel for the operation of machinery and equipment, tools, equipment repair parts and equipment rentals, blueprints, etc, or any other items which do not become a part of or not annexed to the building or structure being erected, altered, or repaired.

Please submit with this form invoices (or copies of invoices) from vendors covering the items purchased.

Requests for sales tax reimbursements should be filed with the Owner with each request for Contract payment. A final sales tax reimbursement request must be filed with the Owner within 60 days from the date of final payment. The Contractor willfully forfeits reimbursement if submittal is not made within allotted time.

Project or Contract Number: The name of the project, or the City Contract Number.

Date: The date form was completed.

Trade: Your trade, e.g. electrical, plumbing, concrete contractor, etc.

Contractor: The name of your company.

Invoice Date: The date the material was purchased.

Invoice Number: The vendor's invoice number.

Name of Vendor: The vendor's name.

Description of Materials: The type of materials purchased (concrete, nails, roofing materials).

Item Cost: The cost of item(s) before taxes are added.

Sales Tax: The North Carolina State tax.

County Tax: The County tax.

Total Invoice: The sum of the Item Cost, State tax and County tax.

County Name: County where material was purchased and sales tax paid (Forsyth, Guilford, etc.)

The Owner or an officer of the company must certify that the statement is correct. The signature should also be notarized.

Applicable North Carolina Sales Tax and County Sales Tax paid on taxable purchases of building materials, supplies, fixtures or equipment which will become annexed to, affixed to or in some manner become a part of said "project", **SHALL NOT** be included in Bid prices.

The Bidder, by submitting a Bid on the Bid Form, warrants that no applicable State or County Sales Taxes are either included within the Bid price or listed or included in any manner or form, either within another figure or separately in said Bid price.

In the event more than one taxable purchase is made from the same vendor during the reporting period, the listing on the Certificate shall contain a subtotal by vendor showing the total amount of the invoices and the total amount of State and County Sales Taxes paid thereon.

In the event taxable purchases are made from vendors located in more than one North Carolina County, the listing on the Certificate shall also be subtotaled by the name of the county.

A copy of each invoice for purchases of materials, supplies, fixtures or equipment shall be attached to the Certificate.

Forsyth County is exempt from Federal Excise and Transportation taxes. The County will issue Federal Excise Exemption Certificates or a Bureau of Internal Revenue Tax Exemption Number only upon request of the Contractor. The County will not guarantee any Federal Tax refund to the Contractor.

CERTIFICATION FOR NORTH CAROLINA SALES TAX

Project or Contract Number				Date				
Trade				Contractor				
Invoice Date	Invoice Number	Name of vendor	Description of Materials	Item Cost	State Tax	County Tax	Total Invoice	County Name
			Totals					

This is to certify that the above materials purchased on the invoices listed were used in the construction of Project or Contract number _____ and that the Sales Tax listed (State and County) is not included on the monthly estimate for contract payment or any other certificate for North Carolina sales tax. Further, that the items listed to, affixed to, or in some manner have become a part of the building, or structure being erected, altered or repaired.

Certificate to be correct by: _____
Owner of Officer of Company

Sworn to and subscribed before me this _____ day of _____ 20____

Notary Public _____

My Commission Expires _____

INSURANCE REQUIREMENTS OF FORSYTH COUNTY CONTRACT SPECIFICATIONS

Insurance. The contractor shall procure and maintain the following insurance for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives or subcontractors.

- A. Commercial General Liability Insurance. The Contractor shall maintain occurrence version commercial general liability insurance or equivalent form with a limit of not less than \$1,000,000 each occurrence. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two times the occurrence limit. Such insurance shall:

1. **Include the County, its officials, officers, and employees as insureds** with respect to performance of the Services. The coverage shall contain no special limitations on the scope of protection afforded to the above listed insureds. ***** **List Certificate Holder and Additional Insured as follows:**

**Forsyth County
It's Officials, Officers, and Employees
201 N. Chestnut Street
Winston-Salem, NC 27101
Attn: Christy Byers**

2. Be primary with respect to any insurance or self-insured retention programs covering the County, its officials, officers, and employees.

- B. Business Automobile Liability Insurance. The Contractor shall maintain business automobile liability insurance or equivalent form with a limit of not less than \$1,000,000 each accident. Such insurance shall include coverage for owned, hired, and non-owned automobiles.

- C. Workers' Compensation and Employers' Liability Insurance. The Contractor shall maintain workers' compensation insurance with North Carolina statutory limits and employers' liability insurance with limits of not less than \$1,000,000 each accident. All employees, owners, officers of the company shall not be excluded from Workers Compensation if they are going to be on Government Property during the contractual term.

- D. Other Insurance Requirements. The Contractor shall:

1. Prior to commencement of services, furnish the County with properly executed certificates of insurance which shall clearly evidence all insurance required in this section and provide that such insurance shall not be cancelled, allowed to expire, or be materially reduced in coverage except on 30 days' prior written notice to the County.
2. Provide certified copies of endorsements and policies, if requested by the County, in lieu of or in addition to certificates of insurance.
3. Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of the services.
4. Maintain such insurance from the time services commence until services are completed.
5. Place such insurance with insurers authorized to do business in North Carolina and having A. M. Best Company ratings of not less than A:VII. Any alternatives to this requirement shall require written approval of the County's Risk Manager.

- E. The Contractor understands and acknowledges that these insurance coverage requirements are **minimums** and that they do not restrict or limit the hold harmless provisions of this agreement.

GENERAL REQUIREMENTS

Forsyth County

1. Contractor to supply all labor, materials, equipment, supervision, insurance and abide by all local, state, and federal laws or codes applicable to the work.
2. Contractor is responsible for conducting site visits prior to bid to verify all field measurements and quantities required for the work.
3. Contractor is responsible for the safe delivery, unloading, placement, and (if applicable) storage of materials or equipment on jobsite
4. Contractor is responsible for the securing of the work area with warning signs and construction barricades, which may include temporary fencing and posts, caution tape, cones, or other means. Contractor shall remove such once Owner and Contractor agree the project site is safe and ready to accept employee and public traffic.
5. Contractor is responsible for traffic control at work area if Contractor work or equipment is affecting traffic flow.
6. Contractor is responsible for the removal of all debris, excess material, or other material to be removed from site as well as for disposal in a legal facility and paying any landfill fees or charges. This may include a dumpster rental or other means to dispose of trash and debris and the safe loading of excess material back to the manufacturer or to another location.
7. Contractor is responsible for any and all damages to County property caused by their equipment or personnel.
8. All work is expected to be completed within the time given from presentation of fully executed contract. Awarded contractor shall provide a project schedule to Owner prior to beginning work and agree to coordinate with County representative on meeting the scheduling needs and requirements of Forsyth County and the General Services Department, with all work planned and scheduled in advance.
9. All work is to be typically scheduled for Monday thru Friday. Once begun, the County expects work to be undertaken without stoppage until completed. NO WORK IS TO BE STARTED WITHOUT PRIOR APPROVAL & NOTICE TO PROCEED FROM THE OWNER OR OWNER'S REPRESENTATIVE.
10. The County's primary project contact is listed below. Once awarded, contractors are instructed to only speak to them or their designated representative regarding the work. Approval of any changes, whether job, specification or schedule, must be authorized by this representative. Likewise, the contractor shall appoint a job superintendent or project manager as the sole contact for the County.

Project Coordinator:

Andy Simmons

Office: 336-703-2206

simmonal@forsyth.cc

PROPOSAL FORM – PAGE 1

Forsyth County Dental Suite Alternation

FORSYTH COUNTY

We, the undersigned bidder, have received and carefully examined a complete set of the Bidding Documents and Specifications prepared by the Owner and have visited the job sites to become familiar with all conditions and requirements of the work, and hereby agree to furnish all labor, materials, equipment, insurance, supervision, permits and abide by all local, state and federal codes, laws, rules, regulations and ordinances applicable to perform work described in these specifications and the requirements under them for the following sum to wit, and in submitting this Bid agree to the following:

- 1- To hold this Bid open for up to 90 days after the Date of Receipt of Bids;
- 2- To accept the provisions of the Instructions to Bidders;
- 3- To enter into and execute a Contract with Forsyth County, if awarded, on the basis of this Bid as specified in the Instructions to Bidders and General Conditions;
- 4- To accomplish the Work in strict accordance with the Contract Documents; and
- 5- To complete the Work for this contract promptly from the Notice to Proceed. The County reserves the right to extend the construction time for inclement weather or such reasons it judges as legitimate.

BIDDER NAME: _____

ALLOWANCE #1 –

DOLLARS \$ 15,000

General Construction Contract

These funds shall be encumbered only upon written approval of the Architect and the Owner. Modifications to the work paid for under this allowance will not receive profit and overhead mark-ups. Any portion of this fund that is unused will be credited back to the Owner via change order.

ALLOWANCE #2 –

DOLLARS \$ 24,000

Door Hardware

These funds shall be encumbered only upon written approval of the Architect and the Owner. Any portion of this fund that is unused will be credited back to the Owner via change order. Installation of hardware is base bid. Forsyth County uses mortised Sargent locksets.

TOTAL BASE BID – LUMP SUM

_____ **DOLLARS \$** _____
(written out) (excludes NC tax)

NUMBER of Calendar Work Days needed to complete the work: _____ (required)

NOTE: This section only applies if there are buildings or structures being built where MEP trades are present...

The below section is required to be filled out for trades present in the project.

IDENTIFICATION OF MAJOR SUBCONTRACTORS (per G.S.143-128-d). Below may not be replaced by awarded contractor except under the two exceptions listed in Article 8: *(write N/A if not in scope)*

HVAC _____

ELECTRICAL _____

PLUMBING _____

GENERAL (if not self-performing) _____

Construction Timeline: 120 calendar days.

Liquidated Damages: \$750 per calendar day.

PROPOSAL FORM – PAGE 2

The County intends to award a single contract to the overall lowest responsible, responsive bidder, taking into consideration quality, performance, and the time specified in the bid for the performance of the contract. If all bids exceed the funding available for this project, the County reserves the right to award a contract(s) in its best interest, including negotiating with the low bidder by changing the scope of work or specifications.

PROPOSAL SIGNATURE PAGE

****attach to bid****

FAILURE TO COMPLETE AND INCLUDE THE FOLLOWING WITH BID IS CONSIDERED A NON-RESPONSIVE BID AND THE BID MAY NOT BE CONSIDERED:

- _____ 5% Bid Guarantee in a separate sealed envelope attached to bid envelope
- _____ Proposal Form with prices written in ink or typed in
- _____ Proposal Signature Form, signed
- _____ Non-Collusion Affidavit of Prime Bidder
- _____ Acknowledgement of addenda (first page with signature only required)

Bidder certifies that this proposal is made in good faith and without collusion or in connection with any other person bidding on the same work nor will any official or employee of Forsyth County be admitted to any share or part of this contract should an award be made to the undersigned.

This page is to be signed by an agent of the bidding organization authorized to submit bids.

_____ (SEAL if company has one)
Date

Authorized Signature

COMPANY NAME (as identified by the office
of the Secretary of State of North Carolina)

Printed Name and Title

Street Mailing Address

Email Address

City, State, Zip Code

N.C. Contractor License No.

Telephone Number

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

****attach to bid****

State of _____)

County of _____)

Project Name & Bid #: _____

_____, being first duly sworn, deposes and says that:

1. He/she is (circle: owner, partner, officer, authorized representative or agent) of _____, the Bidder that has submitted the attached Bid;

2. He/she is fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such Bid;

3. Such Bid is genuine and is not a collusive or sham Bid;

4. Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this Affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bids of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the County of Forsyth, N.C. or any person interested in the proposed Contract; and

5. The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees or parties in interest, including this Affiant.

_____ Authorized Signature (SEAL)

_____ Printed Name

_____ Title

Subscribed and Sworn to Before me this _____ Day of _____, 20____.

Notary Public: _____

My Commission Expires: _____ (SEAL)

BEGINNING OF PROJECT SPECIFICATIONS

PART 1 - GENERAL

The Owner/Contractor Agreement shall be based upon Amendments, Additions and Deletions in and to General Conditions of the Contract for Construction AIA Document A201, 2007 Edition. A copy of this document is available upon request at the Architect's office. Refer to Supplement to the General Conditions for additional requirements of the Contract.

SUPPLEMENT TO THE GENERAL CONDITIONS

GENERAL:

The following supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction", AIA Document A-201. Where any Article of the General Conditions is modified or any paragraph, subparagraph, or clause thereof is modified or deleted by these supplements, the unaltered provisions of the Article, paragraph, subparagraph, or clause shall remain in effect.

ARTICLE I: CONTRACT DOCUMENTS

1.1.1 Add the following: Contract Documents shall include the Instructions to Bidders, Invitation to Bid, the Bid Proposal and all Bidding Documents.

1.1.4 Add the following: The project is **Forsyth County Dental Suite Alterations, Winston-Salem, North Carolina** for Forsyth County.

1.3.1 Add the following: The General Contractor shall receive, for his/her and his/her subcontractors use, without charge, up to six (6) sets of Drawings and Specifications. The Contractor may purchase from the Architect extra copies of Drawings and Specifications at the cost of reproduction, postage and handling.

1.3.1 Add the following: Wherever the term "Architect or Engineer" is used, it refers to Peterson/Gordon Architects, 3508 Vest Mill Rd., Winston-Salem, NC 27103, Tel. 336/760-1411, Email: info@petersongordon.com

ARTICLE 2: OWNER

2.1.3 Add the following: Wherever the term "Owner" is used, it refers to Forsyth County Government, Winston-Salem, NC.

ARTICLE 3: CONTRACTOR

3.2.3 Add the following: Not later than ten (10) days from the contract date the Contractor shall provide a list showing the name of the manufacturer proposed to be used for each of the products (see Submittals in the General Requirements of the Specifications, Division 1) and, where applicable, the name of the installing subcontractor and brand name, if applicable.

The Architect will promptly reply, in writing, to the Contractor stating whether the Owner or the Architect, after due investigation has reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Architect may state that action will be deferred until the Contractor provides further data. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must conform to such requirements.

The Architect will consider a formal request for substitution of products in place of those specified only under the conditions set forth in the General Requirements of the Specifications, as defined in Section 01600, Products and Substitutions.

3.3.1 Add the following: The Contractor shall provide all shoring/falsework/temporary framing/bracing and guying required for new construction and shoring/cribbing required for existing structures; to provide for safe/proper erection, stability and sequencing of construction. The above shall be provided under the supervision and with the approval of a registered professional engineer.

3.9.2 The General Contractor shall provide a full-time construction superintendent who shall coordinate the work of all prime contractors. If any prime contractor fails to cooperate and to adhere to the progress schedule, the superintendent shall notify the architect, who in turn will not approve further Applications for Payment from said contractor until such problems are fully remedied.

SUPPLEMENT TO THE GENERAL CONDITIONS

The General Contractor shall, within 10 days of award of contract, submit to the architect for his review, the name and resume of the proposed superintendent. The superintendent shall have had similar recent experience and shall have been employed by the general contractor for 36 consecutive months in the period since Mar. 1, 2023.

If for any reason during the construction of the project, the architect, in his sole judgement, may direct the general contractor to remove and replace the superintendent with an acceptable replacement within 10 days of such notice.

It is the intention of these specifications to insure that the general contractor and the other prime contractors make every possible effort to cooperate and to complete the work on time and in a first class workmanlike manner.

ARTICLE 5: SUBCONTRACTORS

5.2.3 Omit reference to this entire paragraph and substitute the following: If Owner or Architect has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom Owner or Architect has no reasonable objection at no additional cost to the owner.

ARTICLE 7: CHANGES TO THE WORK

7.3 Construction change directives

7.3.10 New paragraph

In subparagraph 7.3.6, the allowance for the combined overhead (General Conditions) and profit included in the total cost to the Owner shall be based on the following procedures. The allowances for overhead (General Conditions) and profit combined shall not exceed fifteen percent (15%) of the net cost except where the change involves a subcontractor, allowances shall not exceed ten percent (10%) for the subcontractor, and ten percent (10%) for the prime contractor. In the case of deductible change orders or directives, the contractor shall include no less than ten percent (10%) profit, but no allowances for overhead (General Conditions).

7.3.11 new paragraph

The term "net cost" as used in paragraph 7.3.10 shall mean the difference between all cost additions as defined in 7.3.6 and deductions.

ARTICLE 8: TIME

8.1.1 Add the following: The work shall commence on the Notice to Proceed and be fully completed in **270** consecutive calendar days.

8.3.3 Add the following: Claims for extension of contract time, described in Article 8.1.1, for "Bad Weather" shall be submitted by the Contractor for consideration by the Architect only under the following conditions:

1. The number of days during which there was in excess of .02" of rain per day exceeds by 105% the average number of days which there was in excess of .02" of rain per day for that same month for the immediately preceding five years.
2. The number of days during which the temperature did not exceed 32 degrees F. in the period from 7:00 a.m. to 5:00 p.m. exceeds by 105% the average number of days during which the temperature did not exceed 32 degrees F. in the period from 7:00 a.m. to 5:00 p.m. for that same month in the preceding five years.

SUPPLEMENT TO THE GENERAL CONDITIONS

3. The work to be undertaken must be outside, not under roof, and subject to direct delay by the weather.

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

It is the intent of these specifications that no specified materials contain asbestos. The contractor and/or suppliers shall ensure that no specified materials or offered substitutes therefore shall contain asbestos. They shall advise the architect if any asbestos is suspected of being in any specified or offered materials.

ARTICLE 11: INSURANCE AND BONDS

11.1.1 Add the following: Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premises - Operations (including X-C-U)
2. Independent Contractor's Protective
3. Contractual - Including specified provision for Contractor's obligations under Paragraph 3.18
4. Owner, Non-Owner and Hired Motor Vehicles

11.1.1.8 Add the following: Claims for damages sustained by any class of employees engaged in hazardous work on the Project under this contract and not covered under Workmen's Compensation Statute.

11.1.1.9 Add the following: Claims for damage to property arising from blasting, explosion, collapse due to excavation, moving, shoring, and the like, and damage to underground property, or damage to facilities resulting from underground work.

11.1.1.10 Add the following: The Contractor shall either (a) require each of his subcontractors to procure and to maintain during the life of his subcontract Subcontractor's Public Liability and Property Damage Insurance of the type and in the amounts specified herein, or (b) insure the activities of his subcontractors in his policy specified in Paragraph 11.1.

11.1.2 Add the following:

1. a. Workmen's Compensation - Statutory
2. Comprehensive General Liability
 - a. Bodily Injury - \$1,000,000 each occurrence; \$2,000,000 aggregate
 - b. Personal Injury - \$1,000,000 each person aggregate, \$2,000,000 general aggregate
 - c. Property Damage - \$1,000,000 each occurrence, \$2,000,000 aggregate
 - d. Personal & Advertising Injury Limit - \$ 1,000,000
 - e. Fire Damage Legal Liability (Any One Fire) - \$500,000
 - f. Medical Payments - \$5,000
3. Automobile Liability
 - a. Combined Single Limit - Bodily Injury & Property Damage - \$1,000,000
4. Employers Liability:
 - a. Each Accident - \$ 500,000
 - b. Disease - Policy Limit - \$500,000
 - c. Disease - Each Employee - \$ 500,000
5. Umbrella:
 - a. Each Occurrence - \$ 2,000,000
 - b. Aggregate - \$ 2,000,000

SUPPLEMENT TO THE GENERAL CONDITIONS

- 11.2 The **General Contractor** shall be responsible for purchasing and maintaining owner's liability insurance and builder's risk insurance. In the event of a claim the **General Contractor** shall pay the deductible.

END OF SUPPLEMENT TO THE GENERAL CONDITIONS

SECTION 01010- SUMMARY

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

PROJECT/WORK IDENTIFICATION:

General:

Contract Documents indicate the work of Contract, and related provisions of project.

Summary by References:

Work of Contract can be summarized by reference to the Contract, General Conditions, Supplementary Conditions, Specification Sections as listed in the "Index of Specification Sections" bound herewith, Drawings as listed in "Schedule of Drawings" on Drawing Cover Sheet, Addenda and Modifications to the Contract Document issued subsequent to the initial printing of this project manual, and including but not necessarily limited to printed matter referenced by any of these. It is recognized that work of Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside the contract documents.

CONTRACT

The work will be accomplished under one Combined Contract.

Applying to all contracts will be the following documents:

- Contract Forms
- Conditions of the Contract
- Division 1 - General Requirements
- Title Sheet

WORK BY OTHERS:

During Contractor's performance of work of this Contract (prior to substantial completion), work may be performed by Owner's own forces and/or separate contractors.

ALLOWANCES:

No allowances currently identified.

Allowance #1:

Contingency fund of: **\$15,000** for General Construction Contract

These funds shall be encumbered only upon written approval of the Architect and the Owner. Modifications to the work paid for under this allowance will not receive profit and overhead mark-ups. Any portion of this fund that is unused will be credited back to the Owner via change order.

Allowance #2:

Contingency fund of: **\$24,000** for Door Hardware

These funds shall be encumbered only upon written approval of the Architect and the Owner. Any portion of this fund that is unused will be credited back to the Owner via change order. Installation of hardware is base bid. Forsyth County uses mortised Sargent locksets.

END OF SECTION 01010

SECTION 01060- DEFINITIONS AND STANDARDS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and General Requirements, apply to work of this section.

DEFINITIONS:

General Explanation:

A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in the contract documents are defined generally in this article. Definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the work to extent not stated more explicitly in another provision of the contract documents.

General Requirements:

The provisions or requirements of Division 1 sections. General Requirements apply to entire work of Contract and, where so indicated, to other elements of work which are included in the project.

Indicated:

The term "Indicated" is a cross-reference to details, notes or schedules on the drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in the contract documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.

Directed, Requested, etc.:

Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Architect/Engineer," "requested by Architect/Engineer," etc. However, no such implied meaning will be interpreted to extend Architect's/Engineer's responsibility into Contractor's area of construction supervision.

Approved:

Where used in conjunction with Architect's/Engineer's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Architect's/Engineer's responsibilities and duties as specified in General and Supplementary Conditions.

In no case will "approval" by Architect/Engineer be interpreted as release of Contractor from responsibilities to fulfill requirements of Contract Documents.

Project Site:

Space available to Contractor for performance of work, either exclusively or in conjunction with others performing other work as part of project. Extent of project site is shown on drawings, and may/may not be identical with description of the land upon which project is to be built.

SECTION 01060- DEFINITIONS AND STANDARDS

Furnish:

Except as otherwise defined in greater detail, term "furnish" is used to mean supply/deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

Install:

Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing protecting, cleaning and similar operations, as applicable in each instance.

Provide:

Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

Installer:

Entity (person or firm) engaged by Contractor/subcontractor/sub-subcontractor for performance of particular unit of work at project site, including installation/erection/application/similar required operations. It is a general requirement that such entities (Installers) be expert in operations they are engaged to perform.

Testing Laboratory:

An independent entity engaged to perform specific inspections or tests of the work, either at project site or elsewhere; and to report and (if required) interpret results of those inspections or tests.

FORMAT AND SPECIFICATION EXPLANATIONS:

Drawings:

The Drawings are diagrammatic and outline in nature. They represent, schematically and symbolically, common construction practice. Contractor is assumed conversant with common construction practice and the following of instructions from drawings and Specifications. He shall perform all work indicated or reasonably implied by the Contract Documents.

Material notes on Drawings are for identification of major materials. Refer to the Specifications for detailed description of materials.

Sections and details show typical products and assemblies. Each product indicated therein shall be assumed continuous throughout all parts of the Project where the section or the detail applies.

Special products and workmanship shall be added at corners and intersections to provide structural integrity, weather tightness and good appearance.

Only major attachments and accessories are indicated on the Drawings and in the Specifications. Provide all such items as needed to produce a firmly fastened, smoothly functioning, weathertight project of good appearance.

The requirements and instructions of the Drawings are directed to the Contractor, who shall enforce them among the subcontractors and his own forces.

SECTION 01060- DEFINITIONS AND STANDARDS

Specifications:

The Specifications are printed in outline form and include Conditions of the Contract, Division I, General Requirements and Divisions 2 through I6, Technical Specifications, where information is presented in a precise form.

The Uniform Construction Index, is the basis of both format and terminology throughout the Specifications.

All language in Specifications is directed to Contractor, whether he is mentioned by name or not.

Contractor shall enforce instructions among subcontractors, and his own forces.

Sections:

Specifications are divided into Sections according to Uniform Construction Index. The arrangement of the text into Sections is for ease of reference and in no way implies that subcontracts or the work of the various trades must follow that arrangement.

Work and procedures specified in Conditions of the Contract and Division I, apply to all of the Specifications. The work specified in any one Section is related to and dependent upon the work specified in other Sections. When examining the work on one Section, refer to related work in other Sections, especially such work as substrate conditions, finish protection, attachment types, time of finish application, coordination within system and general requirements.

Section Numbering: Used to facilitate cross-references in contract documents. Sections are placed in Project Manual in numeric sequence; however, numbering sequence is not complete, and listing of sections at beginning of Project Manual must be consulted to determine numbers and names of specification sections in the contract documents.

Page Numbering: Numbered independently for each section; recorded in Index.

Specification Content:

Because of methods by which this project specification has been produced, certain general characteristics of content, and conventions in use of language are explained as follows:

Specifying Methods: The techniques or methods of specifying to record requirements varies throughout text, and may include "prescriptive," "open generic-descriptive," "compliance with standards," "performance," "proprietary," or a combination of these. The method used for specifying one unit of work has no requirements for another unit of work.

Overlapping and Conflicting Requirements: Where compliance with 2 or more industry standards or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent requirement (which is generally recognized to be also most costly) is intended and will be enforced, unless specifically detailed language written into the contract documents (not by way of reference to an industry standard) clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently-equal-but-different requirements, and uncertainties as to which level of quality is more stringent, to Architect/Engineer for a decision before proceeding.

Contractor's Options: Except for overlapping or conflicting requirements, where more than one set of requirements are specified for a particular unit of work, option is intended to be Contractor's regardless of whether specifically indicated as such.

SECTION 01060- DEFINITIONS AND STANDARDS

Minimum Quality/Quantity:

In every instance, quality level or quantity shown/specified is intended as minimum for work to be performed or provided. Except as otherwise specifically indicated, actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable limits. In complying with requirements, indicated numeric values are either minimums or maximums as noted or as appropriate for context of requirements. Refer instances of uncertainty to Architect/Engineer for decision before proceeding.

Abbreviations: Language of specifications and other contract documents is of the abbreviated type in certain instances, and implies words/meanings which will be appropriately interpreted. Actual word abbreviations of self-explanatory nature have been included in the text. Specific abbreviations have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of specification requirements with notations on drawings/schedules. These are defined in Section at first instance of use. Trade association names/titles of general standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular, where applicable and where full context of the Contract Documents so indicates.

Work not in Contract is 'NIC'. NIC items are often indicated to aid Contractor in correctly locating outlets, terminating finishes and otherwise preparing for work by others. Temperatures are given in degrees Fahrenheit (F).

Steel sheet thicknesses are given in U. S. Standard Gage (USSG), steel wire thicknesses are given in U. S. Steel Wire Gage (USSWG), aluminum and stainless steel thicknesses are given in inches, copper is specified in ounces per square foot. Mix proportions are by volume, unless weight is specified. K-, C- and R-values for insulation are measured at 75 F. Coatings are specified according to dry film thickness, not wet.

INDUSTRY STANDARDS:

General Applicability of Standards:

Applicable standards of construction industry have same force and effect (and are made part of contract documents by reference) as if copied directly into contract documents, or as if published copies were bound herewith.

Reference standards (referenced directly in contract documents or by governing regulations) have precedence over non-referenced standards which are recognized in industry for applicability to work.

Non-referenced standards are hereby defined to have no particular applicability to the work, except as a general measurement of whether work complies with standards recognized in construction industry.

Publication Dates:

Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of contract documents.

Copies of Standards:

Provide where needed for proper performance of work; obtain directly from publication sources.

SECTION 01060- DEFINITIONS AND STANDARDS

Abbreviations and Names:

The following acronyms or abbreviations as referenced in contract documents are defined to mean the associated names. Both names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of contract documents:

AASHTO American Assoc. of State Highway & Transportation Officials
444 North Capitol; Washington, DC 20001

ACI American Concrete Institute
Box 19150 Redford Stat.; Detroit, MI 48219

AISC American Institute of Steel Construction, Inc.
1221 Ave. of the Amer.; New York, NY 10020

AITC American Institute of Timber Construction
333 W Hampden Ave.; Englewood, CO 80110

ANSI American National Standards Institute
1430 Broadway; New York, NY 10018

APA American Plywood Association
P.O. Box 2277; Tacoma, WA 98401

ASHRAE American Society of Heating, Refrigerating & Air-Conditioning Engineers
345 East 47th St.; New York, NY 10017

ASME American Society of Mechanical Engineers
345 East 47th St.; New York, NY 10017

ASTM American Society for Testing and Materials
1916 Race St.; Philadelphia, PA 19103

AWI Architectural Woodwork Institute
5055 S. Chesterfield Rd; Arlington, VA 22206

AWPA American Wood-Preservers' Association
7735 Old Georgetown Rd.; Bethesda, MD 20014

BHMA Builders Hardware Manufacturers Association
60 East 42nd St.; New York, NY 10017

BIA Brick Institute of America
1750 Old Meadow Rd; McLean VA 22101

CRSI Concrete Reinforcing Steel Institute
180 North LaSalle St.; Chicago, IL 60601

CS Commercial Standard of NBS (U.S. Dept. of Commerce)
Government Printing Office; Washington, DC 20402

DHI Door and Hardware Institute
1815 N. Ft. Myer; Arlington, VA 22209

SECTION 01060- DEFINITIONS AND STANDARDS

- FGMA Flat Glass Marketing Association
3310 Harrison; Topeka, KS 66611
- FHA Federal Housing Administration (U.S. DEpt. of HUD)
451 - 7th St. SW; Washington, DC 20201
- FM Factory Mutual Engineering Corp.
1151 Boston-Providence Turnpike; Norwood, MA 02062
- FS Federal Specification (General Services Admin.)
Bldg. 197, Washington Navy Yard SE; Washington, DC 20407
- FTI Facing Tile Institute
500 12th St., SW; Washington, DC 20024
- MLSFA Metal Lath/Steel Framing Association
221 N LaSalle St.; Chicago, IL 60601
- NAAMM The National Association of Architectural Metal Mfrs.
100 S. Marion St.; Oak Park, IL 60302
- NBS National Bureau of Standards (U.S. Dept. of Commerce)
Gaithersburg, MD 20234
- NEC National Electrical Code (by NFPA)
- NEMA National Electrical Manufacturers Association
2101 L St. NW; Washington, DC 20037;
- NFPA National Fire Protection Association
470 Atlantic Ave.; Boston, MA 02210
- N.F.P.A. National Forest Products Association (Successor to NLMA)
1619 Massachusetts Ave., NW; Washington, DC 20036
- NSF National Sanitation Foundation
3475 Plymouth Rd; Ann Arbor, MI 48106; 313/769-8010
- NWMA National Woodwork Manufacturers Association, Inc.
205 West Touhy Avenue, Park Ridge, IL 60068
- OSHA Occupational Safety and Health Administration (U.S. Dept. of Labor)
Government Printing Office; Washington, DC 20402
- PS Product Standard of NBS (U.S. Dept. of Commerce)
Government Printing Office; Washington, DC 20402
- SMACNA Sheet Metal & Air Conditioning Contractors National Association, Inc.
8224 Old Courthouse Rd.; Vienna, VA 22180
- TCA Tile Council of America, Inc.
PO Box 326; Princeton, NJ 08540; 609/921-7050
- UL Underwriters Laboratories, Inc.
207 East Ohio St.; Chicago, IL 60611; 312/642-6969

SECTION 01060- DEFINITIONS AND STANDARDS

WWPA Western Wood Products Association (Grading Rules)
1500 Yeon Bldg.; Portland, OR 97204

GOVERNING REGULATIONS/AUTHORITIES:

General:

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

All work is governed by the North Carolina Building Code as adopted by the State of North Carolina and the Americans with Disabilities Act. The Contract Documents have been prepared in compliance with all applicable sections to the best knowledge of the Architect/Engineer. The contractor shall bring any conflicts or omissions regarding code compliance to the attention of the architect.

SUBMITTALS:

Permits, Licenses and Certificates:

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

PARTS 2 and 3 - PRODUCTS AND EXECUTION (not applicable)

END OF SECTION 01060

SECTION 01150- SCHEDULES AND PAYMENTS

PART 1 - GENERAL:

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to work of this section.

CONSTRUCTION PROGRESS SCHEDULE:

General Contractor, with aid/advice of other prime contractors/suppliers shall, within 20 days of date established for "commencement of the work", submit comprehensive bar-chart or CPM type progress schedule indicating time bar for each major category/unit of work to be performed at site, including minor units which are, nevertheless, involved in overall sequencing of work. Arrange schedule to graphically show major sequences required in intermeshing of work, and to show how substantial completion is scheduled to allow for Architect's/Engineer's procedure for certification thereto. Prepare/maintain schedule on sufficiently wide sheet/series of sheets, stable transparency/other reproducible stock, to show required data clearly for entire construction time, and to permit reproduction for required distribution.

Schedule Updating:

When revisions to progress schedule have been made/recognized, revise progress schedule. Reissue revised schedule to all concerned parties.

PAYMENT REQUESTS:

Unless otherwise indicated, sequence of progress payments is to be regular, each must be consistent with previous applications/payments. It is recognized that certain applications involve extra requirements, including initial application, application at times of substantial completion, and final payment application.

Payment Application Forms:

AIA Document G-702 and continuation sheets, available from North Carolina AIA, Raleigh, NC 27601 or equal.

Application Preparation:

Except as otherwise indicated, complete every entry provided for on form, including notarization/execution by authorized persons. Incomplete applications will be returned by Architect/Engineer without action. Entries must match current data of schedule of values, progress schedule and report. Listing must include amounts of change orders issued prior to first day of "period of construction" covered by application. Form shall be typewritten and completed in triplicate. Transmit to architect by means to ensure receipt within 24 hours.

Payments shall be made for completed work at a monthly estimated cost of labor and materials, including freight/hauling on receipted bills.

Initial Payment Application:

Principal administrative actions/submittals which must precede or coincide with submittal of first payment application can be summarized as follows, but not necessarily by way of limitation:

1. Listing of subcontractors and principal suppliers and fabricators
2. Schedule of values
3. N. C. Sales Tax Certificate
4. Schedule of principal products
5. Listing of Contractor's staff assignments and principal consultants
6. Copies of acquired building permits and similar authorizations and licenses from governing authorities for current performance of the work
7. Performance and/or payment bonds
8. Evidence satisfactory to Owner that Contractor's insurance coverages have been secured.

Monthly Certificate for Payment shall include following information:

SECTION 01150- SCHEDULES AND PAYMENTS

1. Monthly listing by vendor of taxable purchases and appropriate tax on such purchases.
2. Any local sales taxes paid and the county to which the tax has been paid.
3. Sample certificate as follows:

Certificate Format

CERTIFICATE CONCERNING
NORTH CAROLINA STATE SALES TAX
AND
COUNTY SALES TAX

I, by my signature below, certify that on the Project titled

_____ for the County of Forsyth, North Carolina, that the sales tax and/or use tax on accounts in the amount listed and itemized below was paid by

for the period of _____ through _____.

I further certify, that the taxes itemized in this certification were paid on materials, supplies, fixtures and equipment which have/will become annexed to, affixed to or in some manner become a part of the above said property.

This certification further sets out that the taxes itemized below are over and above all figures included in the original Contract price.

Authorized Signature-Title

Date

Sworn and subscribed to before me this _____ day of _____, 2024

By: _____
Notary Public

(SEAL)

My commission expires: _____

Vendor's Name	Invoice Date	Invoice Number	Total Taxes	State Taxes	County Taxes	County Name

SECTION 01150- SCHEDULES AND PAYMENTS

Application at Time of Substantial Completion:

Following issuance of Architect's/Engineer's final "certificate of substantial completion," and also in part as applicable to prior certificates on portions of completed work as designated, "special" payment application may be prepared and submitted by Contractor. Principal administrative actions and submittals which must proceed/coincide with such special applications can be summarized as follows, but not necessarily by way of limitation:

1. Occupancy permits and similar approvals or certifications by governing authorities and franchised services, assuring Owner's full access and use of completed work.
2. Warranties, guarantees, maintenance agreements and similar provisions of contract documents.
3. Test/adjust/balance records, maintenance instructions, meter readings, start- up performance reports, and similar change-over information germane to Owner's occupancy, use, operation and maintenance of completed work.
4. Final cleaning of the work.
5. Advice to Owner on coordination of shifting insurance coverages including proof of extended coverages as required.
6. Listing of Contractor's incomplete work, recognized as exceptions to Architect's/Engineer's certificate of substantial completion.

Final Payment Application:

Administrative actions and submittals which must precede or coincide with submittal of final payment application can be summarized as follows, but not necessarily by way of limitation:

1. Completion of project closeout requirements
2. Completion of items specified for completion beyond time of substantial completion (regardless whether special payment application was previously made)
3. Assurance, satisfactory to Owner, unsettled claims will be settled and that work not actually completed/ accepted will be completed without undue delay.
4. Transmittal of required project construction records to Owner.
5. Proof, satisfactory to Owner, that taxes, fees and similar obligations of Contractor have been paid.
6. Removal of temporary facilities, services, surplus materials, rubbish and similar elements.
7. Change over of door locks and other Contractor's access provisions to Owner's property.
8. Consent of surety for final payment.
9. Minority Participation Final Report.

Waivers of Lien:

For final payment application, submit waivers of lien from every entity (including Contractor) who could lawfully/possibly file lien in excess of \$100 arising out of Contract and related to work covered by payment. Owner reserves the right to designate which entities involved in the work must submit waivers.

SECTION 01150- SCHEDULES AND PAYMENTS

Application Transmittal:

Submit 3 executed copies of each payment application. Transmit each copy with a transmittal form listing those attachments, and recording appropriate information related to application in a manner acceptable to Architect or Engineer. Transmit to Architect/Engineer by means ensuring receipt within 24 hours.

Final Payment:

Final payment shall be made to the contractors within forty-five (45) days after all work has been finally completed and each and every provision of the specifications and accompanying drawings complied with to the Owner's and Architect's satisfaction.

END OF SECTION 01150

SECTION 01340- SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section.

DESCRIPTION OF REQUIREMENTS:

The types of submittal requirements specified in this section include shop drawings, product data, samples and miscellaneous work related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Division-1 sections and other contract documents for requirements of administrative submittals.

Definitions:

Work-related submittals of this section are categorized as follows:

1. Shop drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to several projects.
2. Product data include standard printed information on materials, products and systems; not specially-prepared for this project, other than the designation of selections from among available choices printed therein.
3. Samples include both fabricated and un-fabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.

Mock-ups are special form of samples, too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals.

4. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data or samples.

SPECIFIC-CATEGORY SUBMITTAL REQUIREMENTS:

General:

Except as indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.

Shop Drawings:

Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated.

Show dimensions and note which are based on field measurement. Identify materials and products in work shown. Indicate compliance with standards, and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by Architect/Engineer to be used in connection with the work.

SECTION 01340- SUBMITTALS

- I. Initial Submittal: 1 correctable translucent reproducible print and 1 blue-line or black-line print; reproducible will be returned.
2. Final Submittal: 3 prints, plus 2 additional prints where required for maintenance manuals; 2 will be retained and remainder will be returned, one of which is to be marked-up and maintained by Contractor as "Record Document".

Product Data:

Collect required data into one submittal for each unit of work or system; and mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements. Maintain one set of product data (for each submittal) at project site, available for reference by Architect/Engineer and others.

- I. Submittals: Do not submit product data, or allow its use on project, until compliance with requirements of Contract Documents has been **confirmed by Contractor**. Submittals that have not been reviewed by the Contractor shall be returned. Submittal is for information and record, unless otherwise indicated. Initial submittal is final submittal unless returned promptly by Architect/Engineer, marked with an "Action" which indicates an observed non-compliance. Submit 2 copies, plus 2 additional copies (which will be returned) where required for maintenance manuals.

Samples:

Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Architect's/Engineer's selection is required. Prepare samples to match Architect's/Engineer's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by Architect/ Engineer. Architect/Engineer will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of the Contractor.

- I. Submittal: At Contractor's option, provide preliminary submittal of a single set of samples for Architect/Engineers review and "Action". Initial submittal is final submittal unless returned with "Action" which requires resubmittal. Submit 2 sets of samples in final submittal; one set will be returned.

Mock-Ups:

Where mock-ups and similar samples are indicated in individual work sections recognized as a special type of sample, comply with requirements for "samples" to greatest extent possible, and process transmittal forms to provide a record of activity.

Inspection and Test Reports:

Classify each as either "shop drawing" or "product data", depending upon whether report is uniquely prepared for project or a standard publication of workmanship control testing at point of production, and process accordingly.

SECTION 01340- SUBMITTALS

Commissioning:

Normal Submittals.

1. The Commissioning Authority will receive a copy of the normal submittals for equipment to be commissioned.
2. The Commissioning Authority will review and approve normal Contractor submittals applicable to systems being commissioned for compliance with commissioning needs, concurrent with the A/E reviews.

Data for Commissioning.

1. The Contractor will receive a written request from the Commissioning Authority requesting specific information needed about each piece of commissioned equipment or system.
2. This will include detailed manufacturer installation and start-up, operating, troubleshooting and maintenance procedures, full details of any owner-contracted tests, fan and pump curves, full factory testing reports, if any, and full warranty information, including all responsibilities of the Owner to keep the warranty in force clearly identified. In addition, the installation and checkout materials that are actually shipped inside the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the Commissioning Authority.
3. The Commissioning Authority may request further documentation necessary for the commissioning process.
4. This data request may be made prior to normal submittals.

Contractor's responsibility for deviations in submittals from requirements of the Contract Documents is not relieved by the Commissioning Authority's review.

Warranties:

Refer to "Products" section for specific general requirements on warranties, product/ workmanship bonds, and maintenance agreements. In addition to copies desired for Contractor's use, furnish 2 executed copies, except furnish 2 additional (conformed) copies where required for maintenance manuals.

Closeout Submittals:

Refer to "closeout" sections for specific general requirements on submittal of closeout information, materials, tools and similar items.

Record Document Copies: Furnish two sets.

Maintenance/Operating Manuals: Furnish 3 bound copies.

Materials and Tools: Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted.

General Distribution:

Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for proper performance of the work.

Include such additional copies in transmittal to Architect/Engineer where required to receive "Action" marking before final distribution. Show such distributions on transmittal forms.

SECTION 01340- SUBMITTALS

ACTION ON SUBMITTALS:

Architect's/Engineer's Action:

Where action and return is required or requested, Architect/ Engineer will review each submittal, mark with "Action", and where possible return within 2 weeks of receipt. Where submittal must be held for coordination, Contractor will be so advised without delay.

- I. Final Unrestricted Release: Work may proceed, provided it complies with Contract Documents, when submittal is returned with the following marking: "Approved".
2. Final-But-Restricted Release: Work may proceed, provided it complies with notations and corrections on submittal and with Contract Documents, when submittal is returned with the following marking: "Approved as Noted".
3. Returned for Resubmittal: Do not proceed with work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking. Do not allow submittals with the following marking (or unmarked submittals where a marking is required) to be used in connection with performance of the work: "Disapproved, Resubmit".
4. Other Action: Where submittal is returned for other reasons, with Architect/Engineer's explanation included, it will be marked as follows: "No Action".

PARTS 2 AND 3 - PRODUCTS AND EXECUTION (not applicable)

END OF SECTION 01340

SECTION 01500- TEMPORARY FACILITIES

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions and general requirements, apply to the work specified in this section.

DESCRIPTION OF REQUIREMENTS:

Definitions:

Specific administrative/procedural minimum actions are specified in this section, as extensions of provisions in General Conditions and other Contract Documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication by Architect or Engineer that such temporary activity is not required for successful completion of work and compliance with requirements of Contract Documents. Provisions of this section are applicable to utility services, construction facilities, support facilities, and security/protection provisions.

JOB CONDITIONS:

Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need. Pay all costs for installation, removal and services or materials used.

Conditions of Use:

Install, operate, maintain and protect temporary facilities in a manner and at locations that will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects.

Temporary Telephone

General Contractor shall provide a method to contact the superintendent at all times. Cell phone or pager are acceptable.

Temporary Toilets

The General Contractor shall provide temporary chemical toilets in enclosures. Locate enclosure outside building. Maintain toilets in clean condition throughout project duration. No debris shall be dumped in building fixtures. No construction tools or equipment shall be cleaned in building toilet rooms. All toilet rooms in building shall be kept locked when work is not actually in progress in room. Abuse of building shall not be permitted. At close of project, remove temporary toilets and repair damage to site. Pay cost of temporary toilets and maintenance.

Temporary Water During Construction:

Water shall be available from the existing building for the duration of the construction period.

Temporary Electricity and Lighting During Construction:

The General Contractor shall make the necessary arrangements and provide temporary electric service and temporary lighting required during the entire construction period. The metered cost of electricity shall be paid by the General Contractor.

SECTION 01500- TEMPORARY FACILITIES

Weather Protection, Temporary HVAC

The General Contractor shall provide all weather protection, temporary heat or cooling and fuel as necessary to carry on the work expeditiously during inclement weather, to protect all work and materials against injury from dampness and cold, to dry out the building and to provide suitable working conditions for the installation and curing of materials until final acceptance by the Owner. Unless otherwise required in the various Specification Sections, building interiors shall be maintained by 45°F and 85°F during installation of interior finish work.

The methods of heating or cooling and the type of fuel and equipment used shall be subject to approval by the Architect. Kerosene heating inside the building will be prohibited. Provided the building/ space is completely enclosed, the General Contractor may utilize the permanent mechanical equipment with the qualifications herein stipulated. Any permanent equipment used shall be turned over to the Owner in the condition and at the time as required by the Specifications. The General Contractor's use of the permanent equipment is hereby qualified as follows:

Permanent Equipment: The permanent equipment shall not be used for temporary heat or cooling unless and until all safety devices specified or required for safe operation of the equipment are installed and operating properly.

Cost: The General Contractor shall pay all power and fuel costs required by the use of the permanent heating and cooling until all safety devices specified or required for safe operation of the equipment are installed and operating properly.

In using permanent equipment, the HVAC Contractor shall provide filters (in addition to filters required with equipment) at all points where air enters the system. Maintain such filters until the building is occupied. Failure to do so will result in the Owner employing an independent cleaning company to vacuum all supply and return ductwork, and to clean all cooling and heating equipment. Cost of such cleaning operation will be charged to the HVAC Contractor at no cost to the Owner.

In the event the Contractor does use mechanical equipment provided under the Contract for heating and cooling purposes during the construction period, the HVAC Contractor will still be required to provide the guarantees specified in Division 15 Mechanical or shown on Mechanical Drawings, for the length of time specified and the time beginning at substantial completion of the facility.

SECURITY

The General Contractor is responsible for project security. He shall protect and secure construction, materials, and equipment, whether his property or the Owner's property, from stealing and damage, by whatever means he deems effective, at his cost.

Methods such as the following shall be employed, singly or together, by the General Contractor, at his cost:

Locks, watchmen, fences, community relations, signs, lights, patrols, radio, alarms, locked storage on-site.

TRAFFIC CONTROL

The General Contractor, after consultation with Architect and Owner, shall designate parking spaces and shall police parking at the project area.

PROJECT IDENTIFICATION

The General Contractor shall erect where directed by the Architect one painted sign as detailed and shown on the drawings. No other signs or advertisements will be displayed without approval of Architect.

SECTION 01500- TEMPORARY FACILITIES

FIELD OFFICES AND SHEDS

Construction Office

The General Contractor shall provide a weather-tight, heated and air-conditioned office within the operations area. The office must be capable of holding project progress meetings and seat up to (15) people. Other prime contractors shall provide their own office space or make arrangements with the General Contractor for space within the main office.

Work Trailers and Shacks

Contractor and major subcontractors may place trailers and shacks within the project site for storage of materials, tools, and equipment and as work offices.

PROJECT HOUSEKEEPING

Trash Disposal

Each Contractor shall keep building and site free from accumulations of waste materials and rubbish, remove cartons, crates, wrappings, lunch trash, and other trash from building daily.

The General Contractor shall provide a central waste area with containers for at least weekly removal. Dispose of trash legally.

Excess Material

Excess material, including unusable material, and excess building materials are property of the Contractor and shall be removed from site and legally disposed of.

Day-By-Day Cleanup

Clean staining or reactive materials from affected surfaces immediately during course of work. Particular care shall be taken to remove plaster, mortar, and paint from aluminum surfaces immediately.

Keep building broom clean. Keep site clean.

Confine dust-producing operations. Vacuum immediately upon completion.

PROJECT PROCEDURES

Pre-construction Meeting

Before work is commenced, the General Contractor shall initiate a meeting with other prime contractors, sub-contractors, Architect and Owner to discuss material storage location on property, automobile parking and ways and means to provide and maintain access during construction.

END OF SECTION 01500

SECTION 01600- PRODUCTS AND SUBSTITUTIONS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and General Requirements, apply to work of this section.

DESCRIPTION OF REQUIREMENTS:

Definitions:

"Products" is defined to include purchased items for incorporation into work, regardless whether specifically purchased for project or taken from Contractor's stock of previously purchased products. "Materials," is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined or otherwise fabricated, processed, installed or applied to form units of work. "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc.). Definitions in this paragraph are not intended to negate the meaning of other terms used in Contract Documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," "special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry.

Substitutions:

Requirements for substitutions do not apply to specified Contractor options on products and construction methods. Revisions to Contract Documents, where requested by Owner, Architect or Engineer, are "changes" not "substitutions." Request substitutions during bidding period only for acceptance prior to Contract Date, and include into Contract Documents. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute "substitutions;" and do not constitute a basis for change orders, except as provided for in Contract Documents. Contractor's requests for changes in products, materials and methods of construction required by Contract Documents are considered requests for "substitutions," and are subject to requirements hereof.

QUALITY ASSURANCE:

Source Limitations:

To the greatest extent possible, provide products, materials and equipment of a singular generic kind and from a single source.

Compatibility of Options:

Where more than one choice is available as options for Contractor's selection of a product or material, select an option which is compatible with other products and materials already selected.

SUBMITTALS:

Requests for Substitutions:

Submit 3 copies, fully identified for product/method being replaced by substitution, including related specification section and drawing number(s), and fully documented to show compliance with requirements for substitutions. Include product data/drawings, description of methods, samples where applicable, Contractor's detailed comparison of significant qualities between specified item and proposed substitution, statement of effect on construction time and coordination with other affected work, cost information or proposal, and Contractor's statement to the effect that proposed substitution will result in overall work equal-to-or-better-than work originally indicated.

SECTION 01600- PRODUCTS AND SUBSTITUTIONS

Requests for substitution based on paragraph above, when forwarded by Contractor to the Architect, are understood to mean that the Contractor:

1. Represents he has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.
2. Will provide same guarantee for substitution that he would for that specified.
3. Certifies cost data presented is complete and includes all related costs under this Contract, but excludes costs under separate contracts and Architect's re-design costs, and waives all claims for additional costs related to the substitution when subsequently become apparent; and
4. Will coordinate the installation of the accepted substitute, making such changes without change in contract price as may be required for the work to be complete in all respects.

Substitutions will not be considered if:

1. Indicated/implied on shop drawing submissions without formal request required,
2. Or for their implementation they require substantial revision of Contract Documents in order to accommodate their use.

PRODUCT DELIVERY-STORAGE-HANDLING:

Deliver/handle/store products in accordance with manufacturers recommendations and by methods and means which will prevent damage, deterioration, and loss including theft. Control delivery schedules to minimize long-term storage of products at site and overcrowding of construction spaces. In particular, provide delivery/installation coordination to ensure minimum holding/storage times for products recognized to be flammable, hazardous, easily damaged, sensitive to deterioration, theft and other sources of loss.

WARRANTIES (GUARANTEES):

Refer to individual sections of Divisions 2 through 16 for the determination of units of work which are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).

General Limitations:

It is recognized that specific warranties are intended primarily to protect Owner against failure of work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in the work which result from (1) unusual and abnormal phenomena of the elements, (2) the Owner's misuse, maltreatment or improper maintenance of the work, (3) vandalism after time of substantial completion, or (4) insurrection or acts of aggression including war.

Related Damages and Losses:

In connection with Contractor's correction of warranted work which has failed, remove and replace other work of project which has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of warranted work.

Reinstatement of Warranty Period:

Except as otherwise indicated, when work covered by a special project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement for the following time period, starting on date of acceptance of replaced or restored work.

SECTION 01600- PRODUCTS AND SUBSTITUTIONS

PART 2 - PRODUCTS

GENERAL PRODUCT COMPLIANCES:

Compliance requirements for individual products indicated in contract documents, are multiple in nature and may include generic, descriptive, proprietary, performance, prescriptive, compliance with standards, compliance with codes, conformance with graphic details and other similar forms and methods of indicating requirements, all of which must be complied with. Also, "allowances" and similar provisions of Contract Documents will have bearing on selection process.

Procedures for Selecting Products:

Contractor's options for selecting products are limited by contract document requirements, and governing regulations, and are not controlled by industry traditions or procedures experienced by Contractor on previous construction projects.

Required procedures include, but are not necessarily limited to, the following for various indicated methods of specifying:

1. Single Product/Manufacturer Name: Provide product indicated, except advise Architect/Engineer before proceeding, where known that named product is not a feasible or acceptable selection.
2. Two or More Product/Manufacturer Names: Provide one of the named products, at Contractor's option; but excluding products which do not comply with requirements. Do not provide or offer to provide an unnamed product, except where none of named products comply with requirements or are a feasible selection; advise Architect/Engineer before proceeding.
3. Where named products in specifications text are accompanied by term "approved equal," or other language of similar effect, comply with this section of the contract document provisions concerning "substitutions" for obtaining Architect's/Engineer's approval to provide an unnamed product.
4. "Named", except as otherwise indicated, is defined to mean manufacturer's name for product, as recorded in published product literature, of latest issue as of date of contract documents. Refer requests to use products of a later (or earlier) model to Architect/Engineer for acceptance before proceeding.
5. Standards, Codes and Regulations: Where compliance with an imposed standard, code or regulation is required, selection from among products which comply with requirements including those standards, codes and regulations, is Contractor's option.
6. Performance Requirements: Provide products which comply with specific performances indicated, and which are recommended by manufacturer (in published product literature or by individual certification) for application indicated.
Overall performance of a product is implied where product is specified for specific performances.
7. Prescriptive Requirements: Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing and similar operations in manufacturing process.
8. Visual Matching: Where matching of an established sample is required, final judgement of whether a product proposed by Contractor matches sample satisfactorily is Architect's judgement. Where no product within specified cost category is available, which matches sample satisfactorily and complies with requirements, comply with contract document provisions concerning, "substitutions" and "change orders" for selection of matching product outside established cost category or not complying with requirements.

SECTION 01600- PRODUCTS AND SUBSTITUTIONS

SUBSTITUTIONS:

Conditions:

Until six (6) days before bid date, Contractor's request for substitution will be received/considered when extensive revisions to Contract Documents are not required and changes are in keeping with general intent of Contract Documents; when timely, fully documented and properly submitted; and when one or more of following conditions are satisfied, all as judged by Architect/Engineer; otherwise requests will be returned without action except to record non-compliance with these requirements.

1. Where request is directly related to an "or equal" clause or other language of same effect in contract documents.
2. Where required product, material or method cannot be provided within Contract Time, but not as a result of Contractor's failure to pursue the work promptly or coordinate various activities properly.
3. Where required product, material/method cannot be provided in a manner which is compatible with other materials of work, or cannot be properly coordinated therewith, or cannot be warranted (guaranteed) as required, or cannot be used without adversely affecting Owner's insurance coverage on completed work, or will encounter other substantial non-compliances which are not possible to otherwise overcome except by making requested substitution, which Contractor thereby certifies to overcome such non-compatibility, non-coordination, non-warranty non-insurability or other non-compliance as claimed.
4. Where required product, material or method cannot receive required approval by a governing authority, and requested substitution can be so approved.
5. Where substantial advantage is offered Owner, in terms of cost, time or other valuable considerations, after deducting offsetting responsibilities Owner may be required to bear, including additional compensation to Architect/Engineer for redesign and evaluation services, increased cost of other work by Owner or separate contractors, and similar considerations.

Work-Related Submittals:

Contractor's submittal and Architect's/Engineer's erroneous or accidental acceptance of, shop drawings, product data or samples which indicate work not complying with requirements of the contract documents, does not constitute acceptable valid request for, nor approval of, a substitution. The contractor shall be responsible for assuring that such oversights are corrected without cost or delay.

END OF SECTION 01600

SECTION 01700- PROJECT CLOSEOUT

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section.

DESCRIPTION OF REQUIREMENTS:

Definitions:

Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Time of closeout is directly related to "Substantial Completion", and therefore is a single time period for entire work.

PREREQUISITES TO SUBSTANTIAL COMPLETION:

Prior to requesting Architect's/Engineer's inspection for certification of substantial completion complete following and list known exceptions in request:

1. In progress payment request coincident with or first following date claimed, show 100% completion for portion of work claimed as "substantially complete", or list incomplete items, value of incompleteness, reasons for being incomplete.
2. Advise Owner of pending insurance change-over requirements.
3. Obtain/submit releases enabling Owner's full/unrestricted use of work and access to services/utilities, including where required, occupancy permits, operating certificates, and similar releases.
4. Make final change-over of locks and transmit keys to Owner, and advise Owner's personnel of change-over in security provisions.
5. Complete start-up testing of systems, approval of the Owner's commissioning agent, and instructions of Owner's operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.

All Test and Balance work and the commissioning of Division 17 must be complete prior to Functional Completion, unless approved in writing by the Owner's Project Manager. Exceptions to this are the planned control system training performed after occupancy and any required seasonal or approved deferred testing. This includes for all systems, but is not limited to:

1. Completed and signed start-up and prefunctional checklist documentation
2. Requested trend log data
3. Submission of final approved TAB report
4. Completion of all functional testing
5. Required training of Owner personnel completed and approved
6. Submission of the approved O&M manuals
7. All identified deficiencies have been corrected or are approved by the Owner to be excepted from this milestone

The Owner's Project Manager will determine the date of Functional Completion after reviewing the Commissioning Agent's recommendation for Functional Completion.

6. Complete final clean up requirements, including touch-up of marred surfaces.

SECTION 01700- PROJECT CLOSEOUT

Inspection Procedures:

Upon receipt of Contractor's request, Architect/Engineer will proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Architect/Engineer will prepare certificate of substantial completion, or advise Contractor of work which must be performed prior to issuance of certificate. Results of completed inspection will form initial "punch-list" for final acceptance.

PREREQUISITES TO FINAL ACCEPTANCE:

Prior to requesting Architect's/Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:

1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
3. Submit certified copy of Architect's/Engineer's final punch-list of itemized work to be completed or corrected, stating each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect/Engineer.
4. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of substantial completion or when Owner took possession of and responsibility for corresponding elements of the work.
5. Submit consent of surety.
6. Remove all trailers, materials, fences, etc.
7. Submit specific warranties, workmanship/maintenance bonds, maintenance manuals, agreements, final certifications and similar documents.
8. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.

Reinspection Procedure:

Upon receipt of Contractor's notice that work has been completed, including punch-list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, Architect/Engineer will reinspect work. Upon completion of reinspection, Architect/Engineer will either prepare certificate of final acceptance or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance.

RECORD DOCUMENT SUBMITTALS:

Specific requirements for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions. General submittal requirements are indicated in "Submittals" sections. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for Architect's/Engineer's reference during normal working hours.

Record Drawings:

Maintain a white-print set (blue-line or black-line) of contract drawings and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on working drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information

SECTION 01700- PROJECT CLOSEOUT

which is recognized to be of importance to Owner, but was for some reason not shown on either contract drawings or shop drawings. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Note related change-order numbers where applicable.

Record Specifications:

Maintain one copy of specifications, including addenda, change orders and similar modifications issued in printed form during construction, and mark-up variations (of substance) in actual work in comparison with text of specifications and modifications as issued. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable. Upon completion of mark-up, submit to Architect/Engineer for Owner's records.

Maintenance Manuals:

Organize maintenance and operating manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed (thumb-tabbed). Include emergency instructions, spare parts listing, warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information. Bind each manual of each set in a heavy-duty 2", 3-ring vinyl-covered binder; include pocket folders for folded sheet information. Mark identification on front/spine of each binder.

Commissioning Operations and Maintenance Data:

The General Contractor, Mechanical, Electrical Subcontractors shall compile O&M manuals for every piece of equipment and building operating or electrical system with the following format.

1. Quantity: 3 copies
2. Format: 8 1/2" x 11" loose leaf binders. Each binder shall be clearly labeled on the spine. Use as many as required. Do not overload binders. There shall be dividers with permanently marked tabs of card stock separating each section and sub section. Tab labels shall not be handwritten.
3. There shall be a title page and table of contents in the front of each binder for each binder's contents. In each binder, there shall be a main tab for each specification section. Behind the section number tab there shall be the equipment ID tag sub-tab for each piece of major equipment (or group, if small or numerous). These sub-tabs shall be similar to the specification number tabs but of a different color. Behind each equipment name tab shall be the following sections, in the given order, divided by a double weight colored sheet labeled with the title of the section.
 - a. Contractor. The first page behind the equipment tab shall contain the name, address and telephone number of the manufacturer and installing contractor and the 24-hour number for emergency service for all equipment in this section, identified by equipment.
 - b. Submittal and Product Data. This section shall include all approved submittal data, cut sheets and appropriate shop drawings. If submittal was not required for approval, descriptive product data shall be included.
 - c. Operation and Maintenance Instructions. These shall be the written manufacturer's data with the model and features of this installation clearly marked and edited to omit reference to products or data not applicable to this installation. This section shall include data on the following:
 1. Installation, startup and break-in instructions
 2. All starting, normal shutdown, emergency shutdown, manual operation, seasonal changeover and normal operating procedures and data, including any special limitations.
 3. O&M and installation instructions that were shipped with the unit.
 4. Preventative maintenance and service procedures and schedules.

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5. Troubleshooting procedures.
 6. A parts list, edited to omit reference to items which do not apply to this installation.
 7. A list of any special tools required to service or maintain the equipment.
 8. Performance data, ratings and curves.
 9. Warranty, which clearly lists conditions to be maintained to keep warranty in effect and conditions that would affect the validity of the warranty.
 10. Any service contracts issued.
- d. Supplemental Data. Prepare written text and/or special drawings to provide necessary information, where manufacturer's standard printed data is not available and information is necessary for a proper understanding and operation and maintenance of equipment or systems, or where it is necessary to provide additional information to supplement data included in the manual or project documents.
 - e. Control Drawings. Include the control drawings for the piece of equipment and its components, including the sequence of operation. This section will be provided by the controls contractor. The drawings will be repeated in the control contractor's O&M submittals.
 - g. System Description. This section shall include the individual equipment portion of the overall system Design Documentation Narrative, if available. It will contain simplified professionally drawn single line system diagrams on 8 ½ x 11 or 11 x 17 sheets, if the system's control drawing is not adequate.
 - h. Preventive Maintenance Instructions. This section shall include a list of the location by O&M document name and page number of the any preventative maintenance instructions applicable to this piece of equipment.
4. Controls and Test and Balance (TAB) O&M Manuals. The controls contractor and TAB contractor have special O&M manual preparation requirements in Section 15995 that shall be merged with those of this section.
 5. Commissioning Record and Testing Data. There will be a separate manual dedicated to documenting the commissioning process which will include all certifications and testing data and some repeating of O&M data. Description of this manual is found in this specification section and shall be prepared by the commissioning agent.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION

CLOSEOUT PROCEDURES:

Arrange for each installer of work requiring continuing maintenance or operation, to meet with Owner's personnel at project site, to provide basic instructions needed for proper operation/maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in required procedures. Review maintenance manuals, record documentation, tools, spare parts/materials, lubricants, fuels, identification system, control sequences, hazards, cleaning, similar procedures and facilities. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

SECTION 01700- PROJECT CLOSEOUT

FINAL CLEANING:

Special cleaning for specific units of work is specified in sections of Divisions 2 through 16. General cleaning during progress of work is specified in General Conditions and as temporary services in "Temporary Facilities" section of this Division. Provide final cleaning of the work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:

- I. Remove labels which are not required as permanent labels.
2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances are noticeable as vision-obscuring materials. Replace broken glass and damaged transparent materials.
3. Clean exposed exterior and interior hard-surfaced finishes, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
4. Wipe surfaces of mechanical/electrical equipment clean, including elevator and similar equipment; remove excess lubrication and other substances.
5. Remove debris/surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics/similar spaces.
6. Clean concrete floors in non-occupied spaces broom clean.
7. Vacuum clean carpeted surfaces and similar soft surfaces.
8. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.
9. Clean light fixtures and lamps so as to function with full efficiency.
10. Clean project site (yard and grounds), including landscape development areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemical spills and other foreign deposits.
Rake grounds which are neither planted nor paved, to a smooth, even-textured surface.

END OF SECTION 01700

SECTION 02060 – DEMOLITION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and General Requirements Division 1, apply to the work specified in this section.

SUMMARY:

The extent of demolition is shown on drawings and contains, but is not limited to, the following. Existing portions of building walls and footings. The complete removal and disposal of all demolition debris shall be as directed by the General Contractor and as shown on all Civil, Architectural, Plumbing, HVAC, and Electrical drawings.

QUALIFICATIONS:

Regulatory Agencies:

The removal, relocation, modification, installation, and capping of all utilities shall be performed by the Contractor in accordance with requirements of the utility company or municipal authority having jurisdiction of that respective utility.

All work shall comply with the requirements of all applicable Local, N.C. and Federal regulatory agencies, ordinances, and the North Carolina State Building Code. This contractor shall obtain and pay for all permits relating to demolition and to the legal disposal of demolition debris from the Yadkin County Health Department and other governmental agencies.

JOB CONDITIONS:

Inspections:

Prior to beginning any demolition, install all necessary pollution control systems for the building as required by governmental regulatory agencies.

Verify and arrange with the Owner for the temporary shut-off of utility services and the required modification and/or capping of utility lines.

Verify and coordinate with the owner access to the building, and the scheduling of work so as not to interrupt Owner's use of adjacent portions of the building.

Obtain all required permits for the completion of the work.

Condition of Structures:

Owner assumes no responsibility for actual condition of materials to be demolished.

Material Salvage:

Portions of building to be demolished and containing items of salvable value to Contractor which are not incorporated in the new work shall be removed from structure as work progresses. Salvaged items must be transported from site as they are removed. Storage/sale of removed items on site will not be permitted. No items are to be removed, stored and reincorporated in the project.

Explosives:

Use of explosives will **NOT** be permitted.

Traffic:

Conduct demolition operations and removal of debris to ensure minimum interference with streets, walks, and adjacent occupied portion of the building. Do not close/obstruct streets, walks and occupied portion of the building without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways.

Protection:

Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings/structures/other facilities/persons.

Protect all utilities that are to remain active. Repair damage to all such utilities due to work under this Contract, to the satisfaction of the authority having jurisdiction over the utility. Active utilities shall be removed or relocated only as indicated, specified, or directed. Inactive utilities shall be plugged, removed as indicated, or capped.

Provide shoring/bracing/support to prevent movement/settlement/collapse of portions of structures to be demolished and adjacent construction to remain.

Protect the remaining occupied portions of building with dust proof partitions to ensure the protection of property, mechanical, electrical equipment and life safety. Locate dust proof partitions at all corridor doors to rooms in which work is not to be done.

PART 3 - EXECUTION

DEMOLITION:

Pollution Controls:

Use suitable methods to limit dust/dirt rising and scattering in air to lowest practical level. Refer to Supplement to the General Conditions. Comply with governing regulations pertaining to environmental protection. Erect dust proof partitions prior to beginning demolition work and maintain until completion of that portion of the work.

Clean adjacent portions of buildings free of dust/dirt/debris caused by demolition operations, as directed by Architect or governing authorities. Return adjacent areas to condition existing prior to the start of work.

Demolition:

Proceed with demolition in a systematic manner. Demolish wood, plaster and masonry in small sections, all edges to have straight saw cut lines.

Remove debris so as to not impose excessive loads to supporting structure.

DISPOSAL OF DEMOLISHED MATERIALS:

Remove from site debris/rubbish/other materials resulting from demolition operations as per Construction Waste Management Plan.

Burning of removed materials will not be permitted on site.

CLEAN-UP:

At the conclusion of work under this contract, the General Contractor shall leave the entire building clean, free of dust and debris. All floors shall be wet mopped and ready for occupancy.

END OF SECTION 02060

SECTION 03200 – CONCRETE REINFORCEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of Contract, including General and Supplementary Conditions and General Requirements apply to work specified in this section.

SUMMARY:

The work in this section of specifications comprises the furnishings and installation of all reinforcing steel for concrete or reinforced masonry work.

SUBMITTALS:

Shop Drawings::

The recommendations of Concrete Reinforcing Steel Institute, Manual of Standard Practice, latest edition, is hereby made part of this specification to same extent as if written out herein in full, and shall be used in conjunction with other CRSI recommendations for detailing and placing of reinforcing steel in concrete and masonry, unless otherwise specified or detailed.

Laps and splices of reinforcing bars shall be in accordance with ACI 318-83, Section 7.5 through 7.9.

Submit, for approval, to the Engineer four (4) sets of shop drawings. Shop drawings should consist of plans showing the size, layout and spacing of reinforcing and special reinforcing around openings in the slabs, also elevations of walls showing the size, layout and spacing of reinforcing around openings including reinforced masonry walls and bending sheets showing size and dimensions of all reinforcing.

Manufacturing or fabricating of any material prior to the approval of shop drawings will be at the risk of the Contractor. Shop drawings returned "Approved as Noted" need not be resubmitted unless they are so noted, but four sets of corrected shop drawings are to be furnished to the Architect.

Approval of shop drawings is for design only. Contractor is responsible for dimensions, quantities and coordination with other trades. Approval does not authorize changes to contract requirements unless stated in a separate letter or change order.

PART 2 - PRODUCTS

Reinforcing Steel:

Intermediate grade, new billet steel, deformed conforming to ASTM A-615 Grade 60.

Minimum Recycled content: 90% (80% post-consumer)

Raw materials and manufacturing to be within 500 miles of job site: Nucor, Darlington, SC (specified) or approved equal meeting LEED requirements

Welded Wire Fabric:

Electrically welded cold-drawn steel wire conforming to ASTM A-82-72. In structural slabs it shall be considered load-carrying reinforcement. See drawings for size and spacing of reinforcing.

Tie Wires:

Soft annealed steel wire of suitable size, minimum #16 U.S. Gage.

Accessories:

Spacers, hangers, chairs, bar supports, stirrups, bolts, inserts, anchors, conforming to all applicable requirements of the appropriate ASTM Specification required for the proper placement of reinforcing is included in this section unless otherwise instructed by the General Contractor and except anchor bolts specified in other sections of this specification.

PART 3 - EXECUTION

TEMPERATURE REINFORCING:

All concrete and masonry construction shall have the minimum reinforcing required to meet temperature requirements. Use ACI-318 for concrete and the specification for the design and construction of load bearing concrete masonry NCMA 1970 for masonry requirements, except no reinforcing minimum is required for non-reinforced masonry except that detailed and specified elsewhere.

Concrete Footings: As detailed and scheduled.

Concrete Structures: ACI Section 7.13 and as detailed.

Reinforced Masonry: NCMA Section 3.10.9.5 and 3.10.9.6 or as detailed.

PLACING REINFORCEMENT:

Place reinforcement accurately in position as indicated on drawings and details and in accordance with the clearances required in AC Section 7.14. Securely fasten and support to prevent displacement before or during pouring. Footing and slab reinforcing shall be supported on plastic chairs. Employ competent men to check reinforcing at all times while reinforcing and concrete are being placed, and to see that reinforcement is maintained in correct position. Footing reinforcing shall be protected by 3" of concrete.

Reinforcement shall be clean and free from scale and rust or any coating. Metal shall be clean until used, or be cleaned with wire brush before placing.

END OF SECTION 03200

SECTION 03300 – CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of Contract, including General and Supplementary Conditions and General Requirements apply to work specified in this section.

SUMMARY:

Furnish all materials/labor/equipment necessary for completion of all cast-in-place concrete as shown/ reasonably implied by drawings and these specifications.

Related work that is specified elsewhere includes:
Sidewalks, curbs and gutters, Section 02520

Standard Specifications Included by Reference:

"ACI Standard Specifications for Structural Concrete Buildings" American Concrete Institute Standard 301-75 is hereby made a part of this specification to the same extent as if bound herein. ACI 301-84 shall be amended, supplemented or deleted as required by the following paragraphs and as such constitutes the specification for this project. Chapter and paragraph reference numbers refer to ACI 301. The Contractor shall keep a copy of ACI 301-83, shall also be applicable to this project. It is recommended that a copy of ACI SP-15 "Field Reference Manual" (containing many applicable standards) be kept in the project field office at all times.

SUPPLEMENTAL SPECIFICATIONS TO ACI 301:

Materials (Chapter 2):

1. The following admixtures are approved and are to be used. Substitutions must be submitted for approval.
 - a. Air entraining agent (exterior concrete only): ASTM C260-CRD-C13
 - b. Do not air entrain concrete for trowel-finished interior floors and suspended slabs. Do not allow entrapped air content to exceed 3 percent.
 - c. In all slabs and columns: Water reducing agent – non-corrosive – non-chloride ASTM C494 Type A or F.
2. Any chemical admixtures must be submitted for approval.
 - a. Use of calcium chloride will not be permitted except as specified.
 - b. Type III cement (Hi-Early) shall not be used without specific approval of the Engineer.
 - c. No aluminum items or aluminates will be permitted in concrete.
 - d. All cement used on this job shall be by the same manufacturer as approved for Concrete Design Test.
 - e. All cement shipments shall be normally capable of passing 90% minimum through a 325 sieve screen test.
 - f. No water will be permitted to be added to the concrete on job; design mixes should be based on maximum slump of 4½"; pump mix max. slump of 6"; masonry grout slump of 8".
3. Sealers or sealing hardeners shall be used on all exposed concrete finished surfaces. Sealer to be an acrylic coating conforming to ASTM C309 Type 1 and 1D Class B. Contractor verify compatibility with floor adhesives.

Proportioning (Chapter 3):

1. Design of concrete members is by ultimate strength design for all concrete.
2. Strength shall be as called for on drawings, except as herein noted.
3. Proportioning of all concrete shall be by Method 1, subject to exclusions stated therein.
4. Alternate procedure, Paragraph 3.8.2.3, will be permitted if all provisions of that section are satisfied.
5. It is responsibility of Contractor to submit proposed design mix for approval. Unless alternate procedure is used, a curve in accordance with Paragraph 3.8.2.1 must be submitted with proposed mix and be used to establish water/cement ratio for basis of design mix. If curve has been established by supplier within the past six months for specific materials to be used, it may be submitted in lieu of new curve, subject to approval of Engineer. Cylinders shall be made/tested, using proposed mix and test results submitted. All costs for providing design mix, test mix cylinders and any retesting due to failure of proposed mix to meet specifications, shall be paid by Contractor. Approval of the design mix does not relieve the Contractor of meeting all requirements of this specification.
6. Concrete strengths:
 - a. All slabs on grade shall have stone aggregate concrete with a 28-day compressive strength of 3,500 psi.
 - b. All concrete footings and other concrete pours shall have stone aggregate concrete with a 28-day compressive strength of 3,500 psi.
 - c. Concrete for filling masonry bond beams, lintels, cells and grouted voids shall be #78 small stone coarse aggregate. The concrete to be a pump mix with a 28-day compressive strength of 3,000 psi.
 - d. Unless otherwise noted, all coarse aggregate is to be graded washed stone sized to conform to ASTM C-33-67 with a maximum size of $\frac{3}{4}$ ".

Formwork (Chapter 4):

1. Where soil conditions will permit excavation and placing of concrete to accurate dimensions without cave-ins, side forms of footings may be omitted.
2. Table 4.3.1 – Tolerances for formed slabs shall be modified to variation in any 10' of 1/8" and of any bay variation of 1/4" and maximum for entire length of 1/2". If variations greater than this exist, Architect's Representative may direct Contractor to grind floor to bring surface within requirements. Patching of low spots will not be permitted. Grinding shall be done as soon as possible, preferably within 3 days, but not until concrete is sufficiently strong to prevent dislodging of coarse aggregate particles.
3. Curing and Sealing Concrete Surfaces:
All slabs to be sealed per manufacturer's recommendations; see Materials 3.
4. Setting Base Plates: Column base plates and beam bearing plates and anchor bolts shall be set by the General Contractor. All column bases shall be set in premixed non-shrink flow grout mix.

Placing (Chapter 8):

1. No concrete shall be placed prior to approval of subgrades, footing bottoms, forms, reinforcing and joints.
2. No concrete shall be placed when temperature is below 40°F and falling or when freezing temperatures are expected within 24 hours, unless permission is obtained from Engineer. Approval shall be for agreed protective procedures only.
3. When concreting is permitted cold weather, ACI 306 shall be followed with the following stipulations:
 - a. Do not use calcium chloride/accelerators/other "anti-freeze" admixtures.
 - b. Do not use Type III cement without prior approval of the Engineers.
 - c. Three extra cylinders, in addition to laboratory cured cylinders, shall be cast/cured under same field conditions as concrete in structure. These shall be used as directed to determine whether freezing occurs and to check strength gain.
4. When concrete is to be placed under water, the method used must be approved.

Finishing of Formed Surfaces (Chapter 10):

Finishing shall be in accordance with Paragraph 10.4 with following exceptions: Monolithic finish for floor slabs (except where floor slabs are depressed): After concrete has been properly placed/struck off/darbed or bullfloated, it shall not be worked until ready for floating. Bullfloat shall be the largest size usable for the area being worked. Power floating shall begin when the water sheen has disappeared, and/or the mix has stiffened sufficiently that the weight of a man standing on it leaves only a slight imprint on the surface. If two power floating operations are necessary to bring the surface to the desired state, the concrete shall be allowed to stiffen or become harder before beginning the second floating operations.

Both power and hand trowelling shall be required. Power trowelling shall begin as soon as little or no cement paste clings to blade. Trowelling shall be continued until surface is dense/smooth/free of all minor blemishes such as trowel marks.

Final hand trowelling shall be required to remove slight imperfections left by trowelling machines and to bring surface to dense, smooth, polished finish.

Final hand trowelling shall be continued until ringing sound is heard as the trowel passes over the surface. Ramps, walks, aprons, etc. shall have a non-slip broom finish.

Flatness and levelness of all interior slabs on grade shall be measured to face floor flatness and levelness numbers in accordance with ASTM E-1155. Specified overall value of Ff/FI shall be 25/17. Minimum local Ff/FI value shall be 13/10. Remedy all out of tolerance work.

Flat Work (Chapter 11):

1. Joints in slabs on grade: See Drawings for locations and details
2. Keyed construction joints in slab-on-grade shall be placed on centerline of columns and/or as shown on Drawings.
3. Construction joints shall be placed no farther apart than 40' in each direction with enclosed area not exceeding 1400 sf, unless detailed otherwise, and slab shall be poured in a checkerboard pattern. Sawed contraction joints are not permitted.
4. All concrete flatwork shall be cured as soon as concrete has set, so as not to be marred by application with hardener and/or sealer as heretofore specified.

Testing (Chapter 16):

1. The testing agency shall be an independent testing laboratory approved by Engineer and paid by General Contractor; and shall be responsible for making/handling/curing specimens, in addition to testing concrete. Reports shall be sent to Engineer/Architect/Contractor.
2. Testing agency shall submit to Engineer, prior to approval, copy of report of inspection of their facilities made by Cement and Concrete Reference Laboratory of the National Bureau of Standards.
3. Refer to Chapter 3 for testing and design mix.
4. A total of four cylinders shall be made for each strength test. Two shall be tested at 7 days, two at 28 days. Tests are required for pours over 10 cu. yds.

Additional Products:

Concrete Slab Edge Expansion Joints- Where slab abuts vertical walls provide ¼" expansion joint, recycled rubber, ASTM 1751,1752. Approved manufacturers are: J.D. Russell Co., Oscoda Plastics, APS Supply, or approved substitution. Provide Recycled content data.

END OF SECTION 03300

SECTION 05400 – COLD FORMED METAL FRAMING

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 – Specifications section, apply to work of this Section.

SUMMARY:

Work Included This Section:

Work to be provided includes all light gauge metal framing. In addition, all miscellaneous framing, bracing, supports, and other items required for proper conduct of the work is included under this Section even if not specifically shown on the Drawings or specified herein. All miscellaneous light gauge metal framing and bracing required to fabricate and install the work indicated on the Drawings shall be provided as a part of the work under this Section if not expressly specified in other Sections of these Specifications.

Related Work Specified Elsewhere:

Gypsum Drywall (Section 09250)

SECTION REQUIREMENTS

Section Requirements apply to all light gauge framing as follows

- A. Engineer, fabricate, and erect cold-formed metal framing [with the following minimum physical and structural properties.
 - 1. Exterior Load-Bearing Walls: Lateral deflection of L/360.
 - 2. Interior Load-Bearing Walls: Lateral deflection of L/360.
- B. Calculate structural characteristics of cold-formed metal framing according to AISI's "Specification for the Design of Cold-Formed Steel Structural Members."
- C. Engage a qualified professional engineer to prepare design calculations.
- D. Submit Product Data and structural analysis data signed and sealed by a qualified professional engineer registered in the state where the Project is located..
- A. Comply with AWS D1.1, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."
- F. Protect cold-formed metal framing from corrosion and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS

MATERIALS

As manufactured by Dietrich, Inc.

Galvanized Steel Sheet: ASTM A 653, G60 (ASTM A 653M, Z180) zinc coated; structural quality.

Steel Studs and Track: Fabricate with flange width of 1-5/8 inches, thicknesses, depths, and gauges as indicated on the drawings.

ACCESSORIES

Misc. Light Ga. Steel Shapes and Clips: ASTM A 36 hot-dip galvanized according to ASTM A 153 zinc coated, structural quality; Grade 33

Size and profiles as per drawings.

Mechanical Fasteners: Corrosion-resistant coated, self-drilling, self-threading steel drill screws.

PART 3- EXECUTION

FRAMING

Install framing and accessories level, plumb, square, and true to line, and securely fasten. Temporarily brace framing.

Fasten framing members by welding or screw fastening.

Fasten reinforcement plates over web penetrations larger than standard punched openings.

Studs: Install, align, and securely anchor continuous tracks to supporting structure. Squarely seat studs against webs of top and bottom tracks. Space studs as indicated; plumb, align, and fasten both flanges of studs to top and bottom track.

Install and fasten horizontal bridging in stud system, spaced in rows not more than 72 inches apart. Install steel-sheet diagonal bracing straps to both stud flanges, terminate at and fasten to reinforced top and bottom track and anchor to structure. Install miscellaneous connections, accessories, and supplementary framing.

Install wood/light gauge blocking behind all wall hung/affixed equipment or accessories.
Install wood blocking when finish items require nailing.

END OF SECTION 05400

SECTION 06100 – ROUGH CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications section, apply to work of this Section.

SCOPE:

Related Work Specified Elsewhere:

Finish carpentry work (Section 06200)

Work Included This Section:

Rough carpentry work as shown on Drawings and as specified herein. Include wood nailers, blocking, furring, grounds, sheathing, rough hardware, framing, shoring, bracing, scaffolding and barriers required for installation of the work shown on the Drawings.

Rough carpentry work generally includes carpentry work provided on the job that is concealed from view in the completed work.

SUBMITTALS:

Certificates: Submit certificates from applicator of preservative treatment, stating type of treatment, manufacturer of treating chemical material, degree of treatment of wood members processed for this Project. Certificate shall be signed by an officer of the company.

Submit certificates certifying that flame spread, fuel contributed and smoke developed rating of the fire retardant treated wood meets or is below limits required by applicable codes and requirements of this Section. Include manufacturer's literature describing type of treatment, manufacturer and description of treating chemical material and degree of treatment of wood members processed for this Project.

PRODUCT HANDLING:

Materials which are delivered to the Project Site in a wet condition shall be rejected, removed from the Project Site and replaced with new and dry materials without additional cost to the Owner. Stack materials in dry storage which furnishes proper ventilation, drainage and protection from the elements. Stack in such a way that will prevent warpage.

INDUSTRY STANDARDS:

Some products and execution are specified in this section by reference to published specifications or standards of the following (with respective abbreviations used). Reference is to the latest edition of the standard referenced.

- Underwriter's Laboratories, Inc. (UL)
- U.S. Department of Commerce
- Product Standards (PS)
- American Plywood Association (APA)
- American Wood Preservative Association (AWPA)
- American Wood Preserver's Bureau (AWPB)

PART 2 – PRODUCTS

MATERIALS:

Moisture Content: Solid wood and plywood preservative treated and fire retardant treated shall be dried to a maximum moisture content of 19%. Untreated solid wood and plywood shall also be dried to a maximum moisture content of 19%.

Grade and Trademark: Grade and trademark shall be on each piece of lumber (or bundle in bundled stock). Use only the recognized official marks of the American under whose rules it is graded.

Quality: Lumber shall be sound, thoroughly seasoned, well manufactured and free from warp that cannot be corrected in process of bridging or nailing.

Grades and Species of Solid Wood: Grades and species of lumber shall be as follows:

Grounds, Blocking, Nailers, Furring and Miscellaneous Uses – No. 2 Southern Yellow Pine

Plywood: Fir or pine plywood conforming to PS 1 of the US Department of Commerce, and manufactured by a member of the American Plywood Assn. Provide interior plywood with exterior glue, (except for roofing or exterior wall work and elsewhere as noted on the Drawings, provide exterior grade plywood with exterior glue) of thicknesses shown on the Drawings and grades as follows:

Provide C-D face veneers where concealed from view. If exposed to view in the finished work, provide A Grade on the exposed face.

Rough Hardware Except as specifically required otherwise in the Contract Documents, furnish and install all rough carpentry hardware and metal fasteners as shown on the Drawings specified herein or required for proper installation of carpentry. Nails, spikes, screws, bolts and similar items shall be of sizes and types to rigidly secure members in place.

Preservative Treatment Where preservative treatment is required, wood shall be pressure-treated with Osmose K-33 or Wolman CCA (chromated copper arsenate) salts, or equal approved in writing by the Architect. Preservative treatment shall be in accordance with the American Wood Preservative Association Specification C2 for lumber and C9 for plywood.

Treated Material showing delamination, cracking or other structural defects shall be rejected.

Fire Retardant Treatment: Where fire-retardant treated wood is required, pressure impregnate lumber and plywood with fire-retardant chemicals to comply with AWWPA C20 and C27, respectively, for Interior Type A treatment identify "FRTW" lumber and plywood with appropriate classification marking of Underwriter's Laboratories, Inc., US Testing, Timber Products Inspection or other testing and inspecting agency acceptable to authorities having jurisdiction.

Each piece of treated lumber or plywood shall bear an Underwriter's Laboratories label or stamp designating the fire hazard classification rating to be 25 or less for flame spread, fuel contributed, smoke developed, and show no sign of progressive combustion where the fire hazard classification test is conducted for 30 minutes (FS-S label). The label or stamp shall be such as to further designate that there is no change in the listed classification when the material has been subjected to the standard Underwriter's Laboratories rain test.

All material supplied shall have been kiln-dried following treatment to a moisture content of 15% or less.

Treatment shall not in any way adversely affect roofing materials nor products containing gypsum, pitch, petroleum and petroleum by-products.

PART 3 – EXECUTION

INSTALLATION:

Wood Grounds, Blocking Nailers, Curbs, Furring and Other Uses: Provide wood grounds, blocking, nailers, curbs, furring, etc. of size and shape required for bringing materials to a true surface, for securing wood trim and where required to secure other work or equipment in place. All work shall be accurately set in place, plumb, true, even, in perfect alignment and securely fastened. Accurately and carefully fit, cut, finish flush, straight and true. Wood blocking or nailers on steel framing shall be bolted thereto.

Install wood furring as shown in Drawings. Secure to substrate with appropriate fasteners to provide rigid, permanent connections. Shim furring out as necessary to bring furring to true planes.

Install nailers at roof perimeters and at all penetrations of roofing for securing work and flashing in place. Secure nailers to roof deck and make flush with insulation or as shown otherwise on Drawings. Anchor wood nailers to resist a force of 75 lb./LF in any direction. The thickness of the nailer shall be such that the top of the nailer is flush with the surface to which the roofing membrane is to be applied as shown on the membrane manufacturer's approved details and approved shop drawings.

Locations of Treated Wood: Use preservative treated wood where noted on the Drawings, where wood is in contact with masonry or concrete, for blocking and nailers used in roof construction and wherever used in exterior walls. If the wood is in a location requiring fire retardant treatment, then the wood shall be fire retardant treated rather than preservative treated.

Use fire retardant treated wood at the following locations:

- Return air plenums
- Where located in fire rated walls, floors, ceilings, or other rated construction
- Where shown on the Drawings
- Where required by the North Carolina State Building Code or other prevailing codes

END OF SECTION 06100

SECTION 06200 – FINISH CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 – Specifications section, apply to work of this Section.

SUMMARY:

Work includes:

All work of a carpentry nature, including casework, that is shown on the Drawings or specified herein and not included in Section 06100 – Rough Carpentry.

Finish carpentry work generally includes carpentry work fabricated and assembled on the job that is exposed to view in the completed work.

Installation of doors and frames and installation of finish hardware.

Related Sections:

Rough Carpentry (Section 06100)
Flush Wood Paneling (Section 6420)
Painting and Finishing (Section 09900)
Wood Doors (Section 08210)
Hollow Metal Doors and Frames (Section 08100)
Finish Hardware (Section 08710)
Sinks and Fittings for Plumbing (Division 15)

INDUSTRY STANDARDS:

Products and execution are specified in this Section by reference to published specifications or standards of the Architectural Woodwork Institute (AWI) (with respective abbreviations used). Reference is to the latest edition of the standard referenced.

QUALITY STANDARDS:

Materials shall comply with the specified requirements of AWI Quality Standards, latest edition, for “Custom Grade” work.

Workmanship shall comply with requirements specified herein, shown on the Drawings and shall be in accordance with standards established in the industry for the particular type of work involved.

QUALIFICATIONS:

Fabricator of finish carpentry work shall have completed comparable work to that specified and indicated for this Project. Fabricator shall be equipped with the basic equipment and machinery required to produce the quality of work specified herein.

SUBMITTALS:

Product Data: In addition to the general conditions as relates to prior approvals, submittals of manufacturer’s data, installation instructions, and samples are required upon Architect’s request.

Samples: Submit samples of casework manufacturer’s standard decorative laminate colors, patterns, and textures for exposed and semi-exposed materials for Architect’s selection. Samples of other materials or hardware shall be made available, if requested.

Production Drawings: Submit production drawings for casework systems and countertops showing layout, elevations, ends, cross-sections, face modular values, service run spaces and location of services. Include layout of units with relation to surrounding walls, doors, windows, and other building components.

PRODUCT HANDLING:

Storage and Protection: Protect work from dampness during and after delivery. Store under cover in a well ventilated building where not exposed to extreme changes in temperature or humidity. Do not store or install work in any part of building until concrete is dry and the air condition system is operating under control to prevent fluctuation of temperature and humidity.

PART 2 – PRODUCTS

MATERIALS:

Solid wood shall be kiln-dried so that moisture content shall not exceed limits required in the referenced woodworking quality standard.

Grades and Species of Solid Wood: Grades and species of wood shall be as described hereinafter, unless a particular species is indicated or specified for a particular application.

Hardwood for Stained Finish: AWI Grade II Red Oak (Cherry finish to match furniture)

Softwood for Painted Finish: AWI Grade II Douglas Fir.

Hardwood for Painted Finish: AWI Grade II Poplar or Birch.

Softwood for Concealed Rough Woodwork: No. 2 Southern Yellow Pine.

Veneered Plywood for Stained Finish: 3/4" thick Red Oak, Rift Cut, Book Matched ANSI Grade A.

Plywood: UFF (formaldehyde free) plywood conforming to PS 1 and produced by a member of the American Plywood Association, interior type with interior glue containing no added formaldehyde resins. Use Grade A where exposed to view and Grade C where completely concealed. Use Grade B for surfaces to receive plastic laminate.

ParticleBoard: UFF (formaldehyde free) composite boards containing no added formaldehyde resins and complying with ANSI 208.1 (grades MS/M1/M2 as per application).
Manufacturer: Columbia Forest Products (Chatham, VA.; Old Fort, NC) or approved equal.

Medium Density Fiberboard (MDF): UFF (formaldehyde free) composite boards containing no added formaldehyde resins and complying with ANSI 208.2 (grade- light).
Manufacturer: Sierra Pine Composite Solutions, Inc. or approved equal

Plastic Laminate: One of the following manufacturers: Nevamar Company; Formica Corporation; Wilsonart Decorative Laminate.

Colors and patterns will be selected by Architect. Use .062" thickness unless indicated or specified otherwise.

Waterproof adhesive as recommended by manufacturer of plastic laminate for the indicated application.

Preservative Treatment: Where wood will be in contact with masonry or concrete, wood shall be pressure-treated with Osmose K-33, Wolman CCA (chromated copper arsenate) salts or approved equal. Preservative treatment shall be in accordance with the American Wood Preservative Association Specification C2 for material not in contact with ground or in water.

Edge Banding: Plywood edges that would be exposed to view in the completed work shall be edge banded with the specified solid wood or plastic laminate accordingly. Edge banding shall be minimum of 1½" wide and shall be tongue and groove and glued to the plywood panel.

CASEWORK: see section 123620- Architectural Casework

Solid Surface countertops:

See Section 12360- Solid Surface Countertops.

PART 3 – EXECUTION

COORDINATION:

It shall be the responsibility of the General Contractor to coordinate the work of the Section with the work of other trades.

QUALITY:

No installation shall proceed the job site is ready to accept finish carpentry. All wet trades must be completed in areas, which are to receive finish carpentry items. Humidity levels shall be as close as possible to that of the future finished occupied space. Dirt and any other foreign matter must be at acceptable minimum levels.

INSTALLATION:

Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with minimum of joints or optimum jointing arrangements, or which are of defective manufacturer with respect to surfaces, sizes or patterns.

Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'0" for plumb and level; and with 1/16" maximum offset from flush.

Scribe and cut work to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

Anchor finish carpentry work to anchorage devices or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Use fine finishing nails for exposed nailings, countersunk and filled flush with finished surface with wood putty.

Work shall be finished smooth and free from machine or tool marks that will show through the finish. All nail heads shall be set and receive putty.

All joints shall be tight and formed to conceal shrinkage. Miters 5" or more from heel to point shall be glued and secured with clamp nails, finish nails or equal method.

Provide blocking as required for securing work in place. Do not install any trim or wood molds until all surfaces have been primed and back-primed. Where required, carefully scribe woodwork to masonry and other adjacent work.

Set work plumb, level and without wacking.

INSTALLATION OF DOORS AND APPLICATION OF FINISH DOOR HARDWARE:

Prior to the installation of any door or application of any finish hardware, examine all doorframes for their proper installation. Door frames found to be out of plumb and square alignment, not securely fabricated or installed, shall be reinstalled by the frame installer prior to beginning work performed under this Section.

Doors designated on door shop drawings to be undercut are specified to be factory undercut. Only the minimum amount of job fitting and machining shall be allowed on doors. All doors shall be accurately fitted to their opening and accurately machined for their hardware. In addition, pairs of doors shall have a gap at meeting stiles not exceeding 1/8" at closest point of bevel. Slope of bevel shall not exceed 1/8" in 2".

Door hardware is furnished under Section 08710. Application of hardware to doors and frames is specified under this Section. The requirements of Section 08710 shall apply to the installation of door hardware.

Receive, store, and be responsible for the door hardware to be installed under this Section. Properly tag, index, and file all keys until turned over to the Owner.

Apply hardware in accordance with templates and manufacturer's instructions; mortise and fit accurately, apply securely, and adjust carefully. Exercise care not to injure work when applying hardware. Where butt hinges are applied to wood doors, the door shall be predrilled for a full threaded No. 12 wood screw. Coordinate with shop drawings and Contract Drawings for proper location.

Doors shall be finished under Section 09900. Remove doors so they may have their bottoms and tops sealed and finished and then re-hang. Cover door hardware until painting is completed. Prior to completion of building, examine doors and hardware, adjust as required, and leave hardware in proper working order, free from defect.

LOCATIONS OF TREATED WOOD:

Use preservative treated wood where noted on the Drawings and where wood is in contact with masonry or concrete.

FINISHING:

All work in the Section shall be finished as specified in Section 09900 except for back priming, which shall be applied under this Section.

CLEANING AND PROTECTION:

All work under this Section shall be carefully protected during shipment, storage and installation. After installation, all work shall be protected from damage at all times. Special care is to be taken at all outside corners to avoid damage.

After completion of all work, all exposed surfaces and finished materials shall be thoroughly cleaned and any damaged surfaces shall be repaired.

END OF SECTION 06200

SECTION 07160 - UNDERSLAB VAPOR RETARDER

PART 1 - GENERAL

SECTION INCLUDES

Surface preparation.

Application of an underslab vapor retarder.

RELATED SECTIONS

Section 03300 - Concrete.

Section 09300 - Tile Flooring.

REFERENCES

American Society for Testing and Materials (ASTM)

ASTM E1745 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil Or Granular Fill Under Concrete Slabs.

ASTM E154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs.

ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials.

ASTM E1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

ASTM F1249-01 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.

American Concrete Institute (ACI)

ACI 302.1R-96 Vapor Barrier Component (plastic membrane) is not less than 10 mils thick.

SUBMITTALS

Submit manufacturer's product data and application instructions.

DELIVERY, STORAGE, AND HANDLING

Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

Store materials in a clean dry area in accordance with manufacturer's instructions.

Stack membrane on smooth ground or wood platform to eliminate warping.

Protect materials during handling and application to prevent damage or contamination.

ENVIRONMENTAL REQUIREMENTS

Product not intended for uses subject to abuse or permanent exposure to the elements.

Do not apply on frozen ground.

PART 2 - PRODUCTS

MANUFACTURER

W.R. Meadows, Inc., PO Box 338, Hampshire, Illinois, Stego Industries, or approved substitution.

MATERIALS

Plastic Vapor Retarder

Performance Based Specification: Vapor Retarder membrane must meet or exceed all requirements of ASTM E1745 Classes A, B, & C.

Minimum Permeance ASTM E96: 0.018 Perms

Water Vapor Transmission Rate ASTM F1249 calibrated to ASTM E96 (water Resistance to Organisms and Substrates in Contact with Soil

ASTM E154, Section 13: 0.027 Perms

Tensile Strength ASTM E154, Section 9: 84 LBS. Force/Inch

Puncture Resistance ASTM D1709, Method B: 4,335 Grams

Water Vapor Retarder ASTM E1745: Meets or exceeds Class A, B & C

Thickness of Retarder (plastic) ACI 302.1R-96: Not less than 10 mils

Proprietary Based Specification

Perminator™ 15 mil by W.R. Meadows.

Stego-Wrap 15 mil by Stego Industries.

ACCESSORIES

Seam Tape

High Density Polyethylene Tape with pressure sensitive adhesive. Minimum width 4 inches.

Pipe Boots

Construct pipe boots from vapor barrier material and pressure sensitive tape per manufacturer's instructions.

PART 3 - EXECUTION

EXAMINATION

Examine surfaces to receive membrane. Notify Architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

SURFACE PREPARATION

Prepare surfaces in accordance with manufacturers instructions.

APPLICATION

Installation shall be in accordance with manufacturer's instructions and ASTM E 1643-98.

Unroll vapor barrier with the longest dimension parallel with the direction of the pour.

Lap vapor barrier over footings and seal to foundation walls.

Overlap joints 6 inches and seal with manufacturer's tape.

Seal all penetrations (including pipes) with manufacturer's pipe boot.

No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities.

Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all four sides with tape.

END OF SECTION 07160

SECTION 07210 – INSULATION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

SUMMARY:

Extent of insulation work is shown on drawings and indicated by provisions of this section.

Applications of insulation specified in this section include the following:

- Batt insulation with integral vapor barrier at exterior metal stud walls (where required)
- Sound attenuation batts in metal stud GWB partitions

QUALITY ASSURANCE:

Thermal Conductivity:

Thicknesses indicated are for thermal conductivity (k-value at 40 F) specified for each material. Provide adjusted thicknesses as directed for equivalent use of material having a different thermal conductivity. Where insulation is identified by "R" value, provide thickness required to achieve indicated value.

Fire and Insurance Ratings:

Comply with fire-resistance and flammability ratings indicated, and regulations as interpreted by governing authorities.

SUBMITTALS:

Product Data:

Submit manufacturer's product specifications and installation instructions for each type of insulation and vapor barrier material required.

Certified Tests: With product data, submit copies of certified test report showing compliance with specified performance values, including k-values (aged values for plastic insulations), densities, compression strengths, burning characteristics, perm ratings, water absorption ratings and similar ratings.

PRODUCT HANDLING:

General Protection:

Protect insulations from physical damage and from becoming wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage and protection during installation.

Protection for Plastic Insulation:

Do not expose to sunlight, except to extent necessary for period of installation and concealment.

Protect against ignition at all times. Do not deliver plastic insulating materials to project site ahead of installation time. Complete installation and concealment of plastic materials as rapidly as possible in each area of work.

PART 2 - PRODUCTS

MATERIALS:

Batt Insulation with Integral Foil Face Vapor Barrier: (where required to be replaced in exterior wall)
Inorganic (nonasbestos) fibers formed with binders into resilient flexible blankets; ASTM C665, Type III, Class B indicated. In thickness shown on drawings. Batts shall be formaldehyde free.

Sound Attenuation Batt Insulation

SECTION 07210 – INSULATION

Unfaced, 3½" thick ASTM C665, ASTM E90/E413, Type 1, STC 8-10 dbs. Batts shall be formaldehyde free. As manufactured by Owens-Corning, Johns Manville or approved equal.

Available Manufacturers:

Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following: Dow Chemical Co., Certainteed., Owens Corning.

PART 3 - EXECUTION

INSPECTION AND PREPARATION:

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

Clean substrates of substances harmful to insulations or vapor barriers, including removal of projections which might puncture vapor barriers.

INSTALLATION:

Comply with manufacturer's instructions for particular conditions of installation in each case. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with work.

Extend insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.

Apply a single layer of insulation of required thickness, unless otherwise shown or required to make up total thickness.

General Building Insulation:

Apply insulation units to existing wall cavity (where existing insulation is removed or damaged.), complying with manufacturer's recommendations. Fill cavity completely.

Sound Attenuation Batt Insulation:

Apply insulation units to wall cavity, complying with manufacturer's recommendations. Fill entire cavity full height U.O.N.

PROTECTION:

Protect installed insulation and vapor barriers from harmful weather exposures and from possible physical abuses, where possible by nondelayed installation of concealing work or, where that is not possible, by temporary covering or enclosure. Installer shall advise Contractor of exposure hazards, including possible sources of deterioration and fire hazards.

END OF SECTION 07210

SECTION 07270 – FIRESTOPPING

PART 1 – GENERAL

RELATED DOCUMENTS:

The provisions of the General Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section as thorough bound therein.

DEFINITION

Firestopping:

Material or combination of materials to retain integrity of fire rated construction by maintaining an effective barrier against the spread of flame, smoke, and gases.

Through-Penetration Firestop Systems:

Material or combination of materials which are field-constructed of fill, void, or cavity materials and forming materials, designed to resist fire spread when installed as a complete firestop system.

Through-Penetration Firestop Devices:

Factory built products designed to resist fire spread. Complete when delivered to site; ready for installation.

SUMMARY

Provide labor, materials, services, coordination and equipment necessary for complete installation of firestopping materials.

Provide through-penetration firestop systems and through-penetration firestop devices, sealants, and related products for floor and wall penetrations and sealing top of “UL” rated walls to deck. Work includes, but is not limited to, General Construction Work, ductwork, piping, conduits, multiple piping, and cables; Plumbing, Fire Protection, Mechanical and Electrical Work.

The Architect recommends but does not specifically require the use of a Specialty Firestopping Contractor for the work of this Section.

Firestopping Work Required in other sections but specified herein:

Provided in Divisions:

- 4 Masonry
- 9 Finishes
- 15 Plumbing
- 16 Electrical
- 17 HVAC

SUBMITTALS

Product Data: Manufacturer’s data indicating product characteristics, performance, and limiting criteria.

Proposed Installation Drawings: Show typical installation for methods of installation.

Documentation of qualifications as firestopping installer as required.

MSDS sheets, for each product to be used, shall be provided to the individual responsible for site coordination of MSDS information.

Certification is required from manufacturer that Installer has been trained in the handling and installation of their products.

QUALITY ASSURANCE

Conform to North Carolina Building Code.

Material test methods:

ASTM E84	"Test Method for Surface Burning Characteristics of Building Materials."
ASTM E119	"Test Method for Fire Tests of Building Construction and Materials"
ASTM E136	"Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C"
ASTM E162	"Standard Method for Surface Flammability of Materials Using a Radiant Heat Energy Source"
ASTM E662	"Test Method for Specific Optical Density of Smoke Generated by Solid Materials"
ASTM E814	"Test Method for Fire Tests of Through-Penetration Firestops"

Installer shall have successfully completed within the last 3 years at least 2 firestop projects similar in type and size to that of this Project. The installer is required to have been trained by each manufacturer of products he is installing in the proper handling and installation of that product.

Obtain firestop materials from a single manufacturer for each different product required.

Application Certification: Upon completion of the work, the Contractor shall furnish to the Architect certification that materials have been installed in accordance with manufacturer's installation requirements. Certification shall be signed by the installer.

PRODUCT DELIVERY AND STORAGE

Deliver materials to project site in manufacturer's original unopened containers with labels indicating brand names.

Store and protect materials in accordance with manufacturer's directions and recommendations.

SEQUENCING

Coordinate this work as required with work of other trades.

Coordinate with other contractors to make or keep penetration areas accessible to firestopping installer.

PART 2 - PRODUCTS

Acceptable manufacturer's products:

Penetration Sealants:

Dow Corning "Firestop Foam" and "Firestop Sealant"
Insta-Foam Products, Inc., "Insta-Fire Seal Silicone RTV Foam"
3M Brand "Fire Barrier" Caulk
3M Brand Moldable Putty "Pads" and Moldable Putty "Stix"
Metalines, Inc., Metacaulk
CS240 Firestop Sealant, Hilti; Tulsa, Oklahoma
Bio Fireshield, Inc., Concord, Massachusetts
Tremco, Beachwood, Ohio

Comply with SCAQMD VOC limits referenced.

Intumescent sealants and firestopping bags for use in openings and sleeves involving plastic pipe, or flexible cable:

Dow Corning "Firestop Intumescent Wrap Strip"
3M Brand "Fire Barrier" Caulk, with FS-195 Wrap Strip and CS-195 Composite Sheet
CS2420 Intumescent Wrap, Hilti; Tulsa, Oklahoma
Bio Fireshield, Inc. Concord, Massachusetts
Tremco, Beachwood, Ohio

Comply with SCAQMD VOC limits referenced.

Joint Safing Material: For one and two hour walls, Fire Master Construction/Safing Joint Fire Protection System or other approved equivalent product.
Comply with SCAQMD VOC limits referenced.

MATERIALS - General

Provide flame (F) rating minimum one hour, but not less than fire resistance rating of the assembly in which installed, per ASTM E814.

Maintain effective barrier against flame, smoke and hot gasses per ASTM E814 and UL 1479.

Suitable for firestopping of penetrations by steel, glass, plastic and insulated pipe. Also flexible cable, bus duct, and cable tray.

Comply with SCAQMD VOC limits referenced in EQ 4.1

PART 3 – EXECUTION

EXAMINATION

Examine surfaces to receive penetration sealant or foam and report unacceptable conditions to the Architect before starting firestopping work. Start of work indicated firestopping installers acceptance of sizing of holes and application conditions.

Verify that penetration holes are approximately 1½" larger diameter than the penetrating element to allow space for wrap strip. Each trade must control sizing of their penetration holes made to accommodate their penetrating items.

PREPARATION

Clean penetration holes of dirt, loose materials, and foreign matter that may affect bond or installation.

Remove coatings such as paint, curing compounds, water repellent, and sealers as required.

APPLICATION

Installation of Firestopping Materials: Install firestopping materials, including forming, packing, and other accessory materials to fill openings around mechanical and electrical services penetrating floors and walls to provide firestops with fire resistance ratings indicated for floor or wall assembly in which penetration occurs. Comply with installation requirements established by testing and inspecting agency.

Install firestopping materials systems in strict accordance with manufacturer's installation instructions and code requirements.

Employ installation techniques that will ensure that firestopping is deposited to fill and seal holes and openings.

Provide Flame (F) rating minimum one hour, but not less than fire resistance rating of the assembly in which installed, per ASTM E814.

Ensure effective smoke seal.

Tool exposed surfaces of applied sealant smooth.

CLEAN-UP

Clean surfaces adjacent to sealed joints free of excess sealant and soiling from this work as work progresses, using solvent or cleaning agent recommended in writing by the sealant manufacturer.

Leave finished Work in neat, clean condition; remove excess debris and materials.

END OF SECTION 07270

SECTION 07816 – CEMENTITIOUS FIREPROOFING

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 – Specifications section, apply to work of this Section.

WORK INCLUDED:

Furnish and install compatible fireproofing patches where existing fireproofing is damaged during construction. Follow UL D-907.

PART 2 – PRODUCTS

Manufacturer: Grace Construction Products (GCP Applied Technologies)

Performance Characteristics

PHYSICAL PROPERTIES RECOMMENDED SPECIFICATION LABORATORY TESTED* VALUES TEST METHOD

Dry density, minimum average 15 pcf (240 kg/m) 15 pcf (240 kg/m) ASTM E605

Bond strength 200 psf (9.6 KPa) 352 psf (16.9 KPa) ASTM E736

Compression, 10% deformation 8.3 psi (51 KPa) 32 psi (220 KPa) ASTM E761

Air erosion Max 0.000 g/ft (0.00 g/m) 0.000 g/ft (0.00 g/m) ASTM E859

High velocity air erosion No continued erosion after 4 hours No continued erosion after 4 hours ASTM E859

Corrosion Does not contribute to corrosion Does not contribute to corrosion ASTM E937

Bond impact No cracking, spalling or delamination No cracking, spalling or delamination ASTM E760

Deflection No cracking, spalling or delamination No cracking, spalling or delamination ASTM E759

Resistance to mold growth No growth after 28 days No growth after 28 days ASTM G21

Surface burning characteristics Flame spread = 0

Smoke developed = 0

Flame spread = 0

Smoke developed = 0

ASTM E84

Combustibility Less than 5 MJ/m total, 20 kw/m peak heat release

Less than 5 MJ/m total, 20 kw/m peak heat release

ASTM E1354

PART 3 – EXECUTION

Follow manufacturer's standard practices/instructions. Strictly comply with UL D-907 requirements. Protect all installed work. Touch up existing areas as required to provide required thickness.

END OF SECTION 13046

SECTION 07900 – SEALANTS

PART 1 – GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section.

DESCRIPTION OF WORK:

Extent of each type of joint sealer is indicated on drawings.

Required applications include, but not necessarily limited to the following:

- Window perimeters
- Exterior building wall joints (at brick and steel)
- At joints between plumbing fixtures and walls
- At joints between countertops and walls
- At door and sash frame juncture with wall
- Around penetrations through gypsum board
- All joints between dissimilar materials normally caulked

SUBMITTALS:

For information only, submit two copies of manufacturer's specifications, recommendations/installation instructions for each type of material required. Include manufacturer's published data/letter of certification/certified test laboratory report indicating that each material complies with requirements and is intended generally for applications shown.

JOB CONDITIONS:

Installer must examine joint surfaces and backing; their anchorage to structure; conditions under which joint sealer work is to be performed and notify the Contractor, in writing, of conditions detrimental to proper/timely completion of work and performance of sealers. Do not proceed until unsatisfactory conditions have been corrected in manner acceptable to the installer.

Do not proceed with installation of sealants under adverse weather conditions, or when temperatures are below/above manufacturer's recommended limitations for installation. Proceed with work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength. Wherever joint width is affected by ambient temperature variations, install elastomeric sealants only when temperatures are in lower third of manufacturer's recommended installation temperature range.

PART 2 - PRODUCTS

MATERIALS:

Colors:

For exposed materials, provide color as selected by Architect from manufacturer's standard. For concealed materials, provide natural color which has the best overall performance characteristics.

Hardness:

As recommended by manufacturer for application shown, unless otherwise indicated.

Modulus of Elasticity:

Provide the lowest available modulus of elasticity which is consistent with exposure to weathering, indentation, vandalism, abrasion, support of loading and other requirements.

Compatibility:

Before purchase of each required material, confirm compatibility with each other material it will be exposed to in the joint system.

Size and Shape:

As shown or as recommended by manufacturer for type and condition of joint, and for the indicated joint performance or movement.

Grade of Sealant:

For each application, provide the grade of sealant as recommended by the manufacturer for the particular condition of installation to achieve the best possible over performance. Grades specified herein are for normal condition of installation.

ELASTOMERIC SEALANTS:

Interior Silicone Rubber Sealant: (For interior use in wet areas)

Silicone rubber-based, one part elastomeric sealant, complying with FSTT-S-001543 Class A; compounded specifically for mildew resistance and recommended by manufacturer for interior joints in wet areas; acid-type for non-porous joint surfaces, and non-acid type where one or both joint surfaces are porous. Provide material by one of the following:

Dow Corning Corporation

General Electric Corporation

NON-ELASTOMERIC SEALANTS:

Acrylic Emulsion Sealant: (General interior use)

Acrylic emulsion or latex rubber modified acrylic emulsion sealant compound; permanently flexible, non-staining and non-bleeding; recommended by manufacturer for general interior exposure and capable of being painted.

Products offered by manufacturers to comply with requirements include the following:

Sonolac by Contech-Sonneborn
DAP Acrylic Latex Caulk by DAP, Inc.
Sikalnex 420 by Sika Chemical Corp.

Esaply by W. R. Meadows, Inc.
AC-20 Acrylic Latex by Pecora Corporation
Acrylic Latex Caulk by Tremco, Inc.

MISCELLANEOUS MATERIALS:

Joint Primer/Sealer:

Provide the type of joint primer/sealer recommended by the sealant manufacturer for the joint surfaces to be primed or sealed.

Sealant Backer Rod:

Compressible rod stock of polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable non-absorptive material as recommended for compatibility with sealant by the sealant manufacturer. It shall be resistant to ozone, weathering, and most oils and chemicals.

PART 3 - EXECUTION

MANUFACTURER'S INSTRUCTIONS:

Comply with manufacturer's printed instructions, except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.

JOINT PREPARATION:

Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant or caulking compound. Etch concrete and masonry joint surfaces as recommended by sealant manufacturer. Roughen vitreous or glazed joint surfaces as recommended by sealant manufacturer.

Prime or seal the joint surfaces wherever shown or recommended by the sealant manufacturer. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.

INSTALLATION:

Set joint filler units at proper depth or position in the joint to coordinate with other work, including installation of backer rods and sealants. Do not leave voids or gaps between the ends of joint filler units.

Install sealant backer rod for elastomeric sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for the application shown.

Employ only proven installation techniques which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of the joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.

Install sealants to depths as shown or, if not shown, as recommended by the sealant manufacturer but within the following general limitations, measured at the center of the bead:

1. For normal moving joints sealed with elastomeric sealants but not subject to traffic, fill joint to a depth equal to 50% of joint width, but neither more than $\frac{1}{2}$ " deep nor less than $\frac{1}{4}$ " deep.
2. For joints sealed with non-elastomeric sealants and caulking compounds, fill joints to a depth in the range of 75% to 125% of joint width.

Spillage: Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces. Clean the adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.

Recess exposed edges of joint fillers slightly behind adjoining surfaces, unless otherwise shown, so that compressed units will not protrude from the joint.

CURE AND PROTECTION:

Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Advise Contractor of procedures required for cure and protection of joint sealants during the construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at the time of Owner's acceptance.

LABELING:

Provide labels on each container of sealants to attest to materials contained within.

END OF SECTION 07900

SECTION 08110 – HOLLOW METAL FRAMES

PART 1 GENERAL

SUMMARY

Section Includes:

Pressed steel hollow metal frames.

Fire-rated hollow metal frames.

Hollow metal window-walls, glazed openings, and other hollow metal frames for glass.

Rough bucks, frame reinforcing, closer reinforcements, clip angles and anchorage.

Factory prime paint finish.

Related Sections:

Section 08210 - Flush Wood Doors.

Section 08710 - Hardware: Finish hardware.

Section 09900 - Painting: Finish painting.

Division 16 – Electrical

REFERENCES

ANSI/SDI-100-83 - Recommended Specifications - Standard Steel Doors and Frames, Steel Door Institute, unless herein specified.

Underwriters' Laboratories Inc. (UL) UL 10C-98 – Fire Tests of Door Assemblies.

NFPA-80-1995 – Standard for Fire Doors and Windows.

NFPA-101-1997 – Life Safety Code.

NFPA-105-1993 – Standard for Smoke and Draft Control Assemblies.

ASTM-A 366-95A – Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality.

ASTM-A 568-95 – Specification for Steel, Sheet, Carbon, and High Strength, Low-Alloy, Hot-Rolled, and Cold-Rolled.

ASTM-A 569-91a – Specification for Steel, Carbon, (0.15 maximum percent), Hot-Rolled Sheet and Strip Commercial Quality.

ASTM-A 924-95 – General Requirements for Steel Sheet, Metallic Coated by the Hot-Dip Process.

ANSI A250.8-1998/SDI 100 – Recommended Specifications for Standard Steel Doors and Frames.

SDI-105-92 – Recommended Erection Instructions for Steel Frames.

ANSI A115.1-.17 - Specification for Door and Frame Preparation for Hardware.

ANSI A156.7 - Standard Template Hinge Dimensions.

SUBMITTALS

General: Submit the following in accordance with Conditions of Contract and Division 1 Specification sections.

Shop Drawings: Indicate door and frame elevations and sections, materials, gauges, finishes door thickness, door swing, stile and rail dimensions, undercuts, fabrication and erection details, locations of finish hardware by dimension and locations/details of all lite openings and louvers. Do not proceed with fabrication until all details are approved.

QUALITY ASSURANCE

Applicable Standards: Specifications and standards of SDI 100-98.

Wind Load Performance Requirements: Comply with wind load requirements of the International Building Code. Deflection shall not exceed 1/175 of span.

Supplier Qualification: Qualified direct distributor of products to be furnished. The distributor shall have in their regular employment an A.H.C./C.D.C. or person of equivalent experience who will be available at reasonable times to consult with the Architect, Contractor and/or Owner regarding any matters affecting the total door and frame openings.

Installer Qualification: Experience with installation of similar materials.

Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated or required, provide fire-rated door and frame assemblies that comply with NFPA 80 "Standard for Fire Doors and Windows", and have been tested, listed, and labeled in accordance with ASTM E152 "Standard Methods of Fire Tests of Door Assemblies" by nationally recognized independent testing and inspection agency acceptable to authorities having jurisdiction.

Oversize Fire-Rated Door Assemblies: For door assemblies required to be fire-rated and exceeding sizes of tested assemblies, provide certificate or label from approved independent testing and inspection agency, indicating that door and frame assembly conforms to requirements of design, materials and construction as established by individual listings for tested assemblies.

Temperature Rise Rating: At stairwell enclosures, provide doors which have Temperature Rise Rating of 450 degrees F maximum in 30 minutes of fire exposure.

PRODUCT HANDLING

Deliver hollow metal doors in manufacturer's protective covering. Handle hollow metal with care to prevent damage.

Door Storage: Store doors in upright position, under cover. Place doors on at least 4 inch (101.6) high wood sills or on floors in manner that will prevent rust and damage. Do not use non-vented plastic or canvas shelters which create humidity chamber and promote rusting. If corrugated wrapper on door becomes wet, or moisture appears, remove wrapping immediately. Provide 1/4 inch (6.3) space between doors to promote air circulation.

Frame Storage: Store frames under cover on 4 inch wood sills on floors in manner that will prevent rust and damage. Do not use non-vented plastic or canvas shelters which create humidity chamber and promote rusting. Store assembled frames in vertical position, 5 units maximum in stack. Provide 1/4 inch space between frames to promote air circulation.

SEQUENCING AND SCHEDULING

Deliver doors and frames to the jobsite in a timely manner so as not to delay progress of other trades.

PART 2 PRODUCTS

MANUFACTURERS

- Provide products as hereafter specified. Substitutions other than those manufacturers listed as Approved Equals must be approved, in writing, via addenda, prior to bid. Procedure for substitutions shall be as outlined in Division 1. No substitutions will be considered after award of contract.

Hollow Metal Frames.

Acceptable Manufacturers.

1. Curries, Mason City, IA.
2. Firedoor, Inc, Miami, FL
3. Pioneer Industries, Carlstadt, NJ
4. Republic Builders Co, McKenzie, TN
5. D&D Specialties
6. Steelcraft, Inc.
7. Ceco, Inc.

Materials

1. Steel requirements; All frames to be manufactured of commercial quality, stretcher leveled flatness, cold rolled steel per ASTM-A366 and A-568 general requirements.
2. Coating Materials: Use manufacturers standard rust inhibiting primer conforming to ANSI-A224.1-1990.

Fabrication

General:

- a. Fabricate all frames in accordance with ANSI A250.8-1998/S.D.I.-100 except where more stringent requirements are specified. All frames to be welded construction.
- b. Prepare frames to receive finish hardware per approved schedules.
- c. Supply only frames manufactured by one of the acceptable manufacturers listed in the specification.

Frames:

- a. Construction:
Interior; 16 gauge cold rolled steel; primed.
Profiles shall be furnished as shown on drawings. **When hardware provided includes smoke seals and/or weatherstripping, furnish kerfed type frame profile with gasketing suited to the required condition.**
- b. Provide temporary shipping bars to help protect from damage during transit and handling.
Shipping bars are to be removed by frame installer prior to blocking and setting frame.
- c. All welds on frames, transoms and sidelites to be ground flush with neatly mitered or butted joint cuts.
- d. All frames scheduled to receive heavy weight hinges shall have full-width hinge reinforcements welded top and bottom at both rabbets at each hinge location.
- e. All frames to be welded construction.

Frame Anchors:

- a. Wall anchors for drywall partitions: Manufacturers standard slip-in or welded type for wood or steel stud sized to accommodate frame jamb depth and face dimension on welded frames.
- b. Provide one jamb anchor for each 30" section plus floor clip.
- c. Floor anchors shall be angle clip type, 16 gauge, welded flush to the bottom of each leg.
- d. Weld pipe spacers or other manufacturers standard design into back of frame soffit to prevent collapse of frame profile. Location of these anchors shall be coordinated by the General Contractor.

Hardware Preparations:

- a. Reinforce components for hardware installation in accordance to ANSI A250.6-1997/SDI-107.
- b. Punch single leaf frames to receive 3 silencers at strike jamb. Double door frames shall receive 2 silencers at frame header.
- c. Factory prepared hardware locations to be in accord with "Recommended Locations for Builders Hardware for Standard Steel doors and Frames" as adopted by the Steel Door Institute (SDI).

PART 3 EXECUTION

EXAMINATION

Examine supporting structure and conditions under which hollow metal is to be installed. Do not proceed with installation until unsatisfactory conditions have been corrected.

INSTALLATION

Setting Hollow Metal Frames:

1. Set all frames in accordance with SDI 105-92.
2. Set welded frames in position prior to beginning partition work. Remove temporary spreaders and brace frames at bottom and center until permanent anchors are set.
3. Install all fire rated frames in accordance with NFPA-80-1995.

Adjustment and cleaning hollow metal:

1. Remove dirt, joint compound, sealant or glazing compounds from exposed surfaces.
2. Adjust & Shim as necessary for proper clearances.
3. Fill all dents, holes, etc. with metal filler and sand smooth and flush with adjacent surfaces, re-prime/paint to match.

Mount hardware units at heights indicated in the following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by the Architect.

"Recommended Locations for Builders Hardware for Custom Hollow Metal Doors and Frames" as published by DHI and NAAMM.

END OF SECTION 08110

SECTION 08210 – WOOD DOORS

PART 1 GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section.

SUMMARY

Section Includes:

Standard and fire rated type wood doors with flush faces.

Pre-fit and pre-machine wood doors.

Related Sections:

Section 06100 - Rough Carpentry.

Section 08110 - Hollow Metal Frames.

Section 08710 - Hardware.

Section 08800 - Glazing: Glass and glazing for doors.

REFERENCES

WDMA – Window and Door Manufacturers Association: IS 1-A 1997 Industry Standard for Architectural Flush Wood Doors.

NFPA-80 Standards for Fire Doors.

Uniform Building Code: UBC 7-2 1997, Fire Test of Door Assemblies.

SUBMITTALS

Shop Drawings and Product Data:

Submit in accordance with Section 01330.

Indicate general construction, jointing methods, hardware and louver locations, and locations of cut-outs for glass. Indicate thickness of veneers.

Samples:

Submit samples of wood veneer and factory finishing in accordance with WDMA Quality Standards I.S. 1-A 1997, sections G-18 and Guide Specifications 1.03 C.

Certification:

Submit certification that doors and frames comply with UBC 7-2 1997.

QUALITY ASSURANCE

Fire-Rated Wood Doors: Provide wood doors which are identical in materials and construction to units tested in door and frame assemblies in accordance NFPA 252 and which are labeled and listed for ratings indicated by UL or other testing and inspection agency acceptable to authorities having jurisdiction.

Doors: Comply with UBC 7-2 1997 where required.

Provide intumescent requirements in compliance with UL-10C.

WDMA I.S. 1-A 1997 Quality Standard: Window and Door Manufacturers Association Quality Standards for grade of door, core, construction, finish, and other requirements.

Temperature Rise Rating: At stairwell enclosures, provide doors which have Temperature Rise Rating of 250 degrees F maximum in 30 minutes of fire exposure.

PRODUCT HANDLING

Plastic wrap and protect wood doors during transit, storage and handling to prevent damage, soiling or deterioration. Follow the Care and Installation guidelines as described in WDMA I.S. 1-A 1997.

GUARANTY/WARRANTY

Guarantee: Provide manufacturer's guarantee for all wood doors. Guarantee period: Lifetime of original installation. Doors exhibiting defects in materials or workmanship including warp and delamination within guarantee period shall be replaced (including hanging and finishing) with new doors. These terms shall be part of the manufacturer's standard warranty.

PART 2 PRODUCTS

ACCEPTABLE MANUFACTURERS

Graham Manufacturing

Eggers Industries

Algoma Hardwoods

Or approved substitution as provided in Section 01600.

MATERIALS

DOOR CONSTRUCTION:

Non-Fire Rated Doors: Thickness: 1-3/4 inches, interior flush wood, bonded, solid core conforming to WDMA I.S. 1-A 1997 and the following;

Core: bonded particleboard/agrifiber core (PC) PC-5 UFF PB (formaldehyde free); (AC) Agri-core UFF (formaldehyde free)

Door construction shall conform to WDMA I.S. 1-A 1997 Premium Grade requirements.

Stiles: Minimum 3/8" before pre-fit hardwood to match face veneer over structural composite lumber (SCL), glued to core.

Rails: Mill option hardwood or SCL. Top and bottom: 2 inches.

Facing: Wood veneer as specified.

Fire Rated Doors: Thickness: 1-3/4 inches, interior flush wood, bonded, solid core conforming to WDMA I.S. 1-A 1997 and the following;

Core: bonded mineral core (FD) conforming to WDMA I.S. 1-A 1997.

Door construction shall conform to WDMA I.S. 1-A 1997 Premium Grade requirements.

Stiles: Minimum 3/8" before pre-fit hardwood to match face veneer over mineral composite, glued to core.

Furnish Category A Positive Pressure openings have all the intumescent required for compliance contained within the door and require no additional installation of intumescent strips.

Rails: Mineral composite as required by fire door authorities. Top and bottom: as required by manufacturer's fire door authorities.

Facing: Wood veneer as specified.

WOOD VENEER

Door face veneers shall meet HPVA "A" grade quality standards conforming to WDMA I.S. 1-A for transparent or semi-transparent finish. Minimum face veneer thickness shall be 1/50" at 12% moisture content after finish sanding.

Species: Red Oak

Face Cut: Plain Sliced

Face Assembly: N/A

Face Symmetry: N/A

ADHESIVES

Adhesives: Face to core adhesives shall be Type I or Type II as appropriate for location in building. Adhesives must be classified Type I or Type II per WDMA TM-6 "Adhesive Bond Test Method." Type I adhesives shall be used for doors in exterior applications, Type II adhesives shall be used for doors in interior applications.

Adhesives to comply with SCAQMD VOC limits referenced

CORE

Non-rated and 20 minute doors: Solid particleboard, UC5 UFF PB (formaldehyde free) or AC Agri-core (formaldehyde free)

Fire-rated doors: Non-combustible mineral core containing no asbestos.

FINISH

Stained field finish, see Section 09900.

ACCESSORIES

Vision Frames:

Non-rated doors: Flush wood frames, hardwood to match facing.

Fire-rated doors: Provide manufacturer's tested metal clip or comparable system. Provide UL approved glazing system.

Glass: Refer to Section 08800 for glass types.

FABRICATION

Fabricate wood doors in accordance with requirements of WDMA I.S. 1-A 1997 Quality Standards.

Fabricate fire rated doors in accordance with requirements of Underwriters' Laboratories, with metal label on each door including UL-10C.

Fabricate doors with WDMA Quality Standards hardware blocking options as follows:

Provide HB-1 – head and HB-2 – sill rails and HB-4 – lockblock on all doors.

Provide HB-6 only when exit devices are specified for door.

Provide HB-8 for pivots or when floor bolts are specified under Section 08710 – Finish Hardware.

Provide doors with minimum ¼ inch thick edge strips, of wood species to match face veneers except as required for fire rating.

Make cut-outs and provide stops for glass and louvers. Install metal door louvers. Seal cut-outs prior to installation of moldings.

For full light doors: Provide cut out from flush wood door, with vertical grain direction.

Bevel lock and hinge edges of single acting doors 3 degrees or 1/8 inch in 2 inches. Radius strike edge of double acting swing doors as required by pivot hinge manufacturer.

Prepare doors to receive hardware. Refer to Section 08710 - Hardware and NFPA 80 for hardware requirements including UL-10C.

Pre-fit and bevel to net opening size less approximately 1/4 inch in width on single swing doors 3/16 inch in width for paired doors. Provide 1/4 inch clearance above finished floor, unless otherwise indicated on drawings. Provide 1/8 inch clearance at top of door.

Slightly ease vertical edges.

PART 3 EXECUTION

EXAMINATION

Examine installed door frames before hanging doors.

Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.

Proceed with installation only after unsatisfactory conditions have been corrected.

INSTALLATION

Handle doors in accordance with recommendations of WDMA I.S. 1-A, "Care and Installation at Job Site."

Condition doors to average temperature and humidity in area of installation for not less than 48 hours prior to installation. Store doors per recommendations of WDMA I.S. 1-A, "Care and Installation at Job Site."

Install in neat and workmanlike manner, free from hammer or tool marks, open joints or slivers.

Set plumb, level, square and true. Install work after building humidity is at acceptable level.

Remove and replace all doors found to be warped, twisted, bowed, or otherwise damaged. Do not install doors which cannot be properly fitted to frames.

Adjust doors and hardware and other moving or operating parts to function smoothly and correctly.

Field finished doors must follow the WDMA I.S. 1-A, "Care and Handling at Job Site" instructions for field applied finishes.

Ensure that smoke gaskets are in-place before door installation.

CLEANING & PROTECTION

Clean finished doors and hardware.

At clear finished doors, do not partially cover door surfaces with paper, cardboard, or any other opaque covering that will create uneven aging of wood veneer.

Protect doors as required until final acceptance.

Refinish or replace doors damaged during installation.

END OF SECTION 08210

SECTION 08310 - ACCESS PANELS

PART 1: GENERAL

WORK INCLUDED

Metal Access Panels, rated and non-rated.

Options and Accessories

RELATED WORK

Section 09900 - Painting

REFERENCES

NFPA80-Fire Doors

Fire-rated access panels tested and certified by Underwriters Laboratories (UL), and labeled with 1-1/2 hour "B" fire rating for wall applications.

QUALITY ASSURANCE

Fire Resistance Ratings

Whenever a fire-rated access panel is indicated, provide complete access panel assembly with door, frame, hinge and latch as tested and labeled by U.L. and/or W.H.I.

Size Variations

Obtain Architects acceptance of manufacturer's standard size units which may vary slightly from sizes indicated.

Coordination

Furnish inserts and anchoring devices which must be built into other work for installation of access doors.

Coordinate delivery with other work to avoid delay.

PART TWO: PRODUCTS

ACCEPTABLE MANUFACTURERS

Units listed as follows are provided by J.L. Industries, Inc., 4450 West 78th Street Circle, Bloomington, MN 55435.

Bilco Company

Or approved substitution per Section 01600

FIRE RATED ACCESS PANELS

Where indicated on drawings, provide J.L.'s FDWB Series, with door dimensions of 18" square. Access panel to be equipped with universal turn ring latch mechanism.

NON-RATED ACCESS PANELS

Where indicated on drawings, provide J.L. WB Flush Access Series with door dimensions of 24" square.

Access panel to be equipped with a cylinder lock.

OPTIONS AND ACCESSORIES

Cylinder lock option for non-rated access panels.

PART 3: EXECUTION

INSPECTION

Verify that openings are correctly dimensioned to receive doors.

INSTALLATION

Install per manufacturer's recommendations.

ADJUST AND CLEAN

Adjust latching (locking) mechanism to operate smoothly.

Leave work area clean and free of debris.

END OF SECTION 08310

SECTION 08710 – FINISH HARDWARE

PART 1 – GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section.

DESCRIPTION OF WORK:

The General Contractor shall allow the sum of **\$6,500** described in Allowance #2, Section 01010, to cover the cost of furnishing Finishing Hardware. The above allowance does not include installation. Installation is included in the base bid.

SUBMITTALS:

MANUFACTURER'S DATA:

Submit manufacturer's product data for each item of hardware. Include whatever information may be necessary to show compliance with requirements; include instructions for installation and maintenance of operating parts/exposed finishes. Wherever needed, furnish templates to fabricators of other work which is to receive finish hardware. Transmit copy of applicable data to installer.

Hardware Selection:

Architect and/or Owner shall select finishing hardware and then authorize/direct Contractor to place his order for such hardware. Upon receipt of order, hardware supplier will furnish copies of detailed schedules to all parties concerned.

Should the cost of hardware be more than the allowance sum, Owner will pay to General Contractor such difference, but should the cost be less than allowance sum the General Contractor will credit Owner with difference. Adjustments to contract price will be made by change order.

Hardware Schedule:

Submit four copies of hardware schedule for Architect's approval. Furnish necessary copies (after approval) for construction. In schedule submitted, hardware heading shall be referenced to hardware heading as indicated in Contract Documents for specific opening.

Schedule shall indicate type of hardware; abbreviation of manufacturer's name at each item; manufacturer's catalog number, size, finish and location of each item; size, material and hand of doors; and material of frame. The schedule specified herein is condensed and schedule to be submitted as required herein shall be fully extended for each item.

Receive written approval from Architect on submitted schedule prior to ordering/fabricating hardware.

END OF SECTION 08710

SECTION 08800 – GLASS AND GLAZING

PART 1 – GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

SUMMARY:

Definitions:

“Glass” includes prime glass/processed glass/fabricated glass products, “Glazing” includes glass installation/materials used to install glass. “Glass products” is defined to include glazing plastics. Types of work in this section include glass and glazing for:

Door view windows

SUBMITTALS

Product Data/ Samples:

Submit manufacturer's descriptive literature and product specifications complying with specifications.

QUALITY ASSURANCE:

Prime Glass Manufacturer:

One of the following for each type/color/pattern of glass (or approved equal meeting the LEED requirements):

OldCastle Glass	Pilkington
Viracon, Inc.	Vitro Architectural Glass (specified)
Prime Glass Standard:	FS DD-G-451.
Heat-Treated Glass Standard:	FS DD-G-1403.
Safety Glass Standard:	CPSC 16 CFR 1201.

JOB CONDITIONS:

Meet with glazier and other trades affected by glass installation, prior to beginning of installation. Do not perform work under adverse weather or job conditions. Install liquid sealants when protection and maintenance have been adhered to during warranty period. Warranty period is 3 years after seal date permanently imprinted on unit, but not less than 2 years after date of substantial completion.

PART 2 - PRODUCTS

GLASS PRODUCTS:

Tempered Glass:

Provide prime clear glass of type indicated, which has been heat treated to strengthen glass in bending to not less than 4.5 times annealed strength. Provide tempered glass at locations required by North Carolina State Building Code.

Safety Wire Glass:

Provide 1/4" clear glass (CAT II Impact-Rated Safety Glass)
w/ Embedded 3/4" x 3/4" Wire Mesh. Glazing to be UL Classified and Labeled & permanently etched with UL Classification. Glazing to be Fire-rated up to 45 minutes with hose stream & passing 400 ft-lb impact tests & air blast testing – minimum Level 3 @ 4.0 PSI.

Glass Approvals: ANSI Z97.1 and CPSC 16CFR1201 (Cat. I and II)

GLAZING SEALANTS AND COMPONENTS:

Provide color of exposed sealant/compound indicated; if not indicated, as selected by Architect from manufacturer's colors, or black if no color is selected. Comply with manufacturer's recommendations for selection of hardness, depending upon location of each application/conditions at time of installation/performance requirements as indicated. Select materials/variations or modifications for compatibility with surfaces contacted in the installation.

Interior Glass:

Emulsion of acrylic, with or without latex rubber modification; compounded specifically for glazing; nonhardening, nonstaining and nonbleeding.

GLAZING GASKETS:

Cellular Neoprene Glazing Gaskets:

Extruded/molded, closed-cell, integral-skinned neoprene of profile required to maintain watertight seal; comply with ASTM C509, Type II, black.

MISCELLANEOUS GLAZING MATERIALS:

Cleaners, Primers and Sealers: Type recommended by sealant/gasket manufacturer.

Setting Blocks:

Neoprene or EPDM, 70-90 durometer hardness, proven compatible with sealants used.

Spacers:

Neoprene or EPDM, 40-50 durometer hardness, proven compatible with sealants used.

PART 3 - EXECUTION

STANDARDS AND PERFORMANCE:

Protect glass from edge damage during handling and installation, and subsequent operation of glazing components of the work. During installation, discard units with significant edge damage or other imperfections.

Glazing channel dimensions as shown are intended to provide for necessary bite on glass, minimum edge clearance, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.

Comply with combined recommendations and technical reports by manufacturers of glass and glazing product as used in each glazing channel, and with recommendations of Flat Glass Marketing Association's "Glazing Manual," except where more stringent requirements are indicated.

PREPARATION FOR GLAZING:

Clean glazing channel/other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrate. Remove lacquer from metal surfaces where elastomeric sealants are used.

Apply primer/sealant to joint surfaces where recommended by sealant manufacturer.

GLAZING:

Install setting blocks of proper size in sill rabbet, coated 1/4th of glass width from each corner. Set blocks in thin course of heel bead compound, if any.

Provide spacers inside and out, proper size and spacing, for glass sizes larger than 50 united inches, except where gaskets or preshimmed tapes are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.

Set units of glass in each series with uniformity of pattern/draw/bow/similar characteristics.

Prevent exudation of sealant/compound by forming voids or installing filler rods in channel at heel of jambs and head (do not leave voids in sill channels), except as otherwise indicated and depending on light size/thickness/type of glass and complying with manufacturer's recommendations.

Force sealants into channel to eliminate voids and ensure complete "wetting" or bond of sealants to glass and channel surfaces.

Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

Clean and trim excess glazing materials from glass and stops or frames promptly after installation, and eliminate stains and discolorations.

CURE, PROTECTION AND CLEANING:

Protect glass from breakage immediately upon installation, using crossed streamers attached to framing and held away from glass; do not apply markers to surfaces of glass; remove nonpermanent labels; clean surfaces; cure sealants for high early strength and durability.

Remove/replace glass which is broken/chipped, adbraded/damaged in other ways during construction period, including natural causes, accidents and vandalism.

Wash/polish glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Comply with manufacturer's recommendations for final cleaning.

END OF SECTION 08800

SECTION 09250 – GYPSUM DRYWALL

PART 1 – GENERAL

RELATED DOCUMENTS:

The general provisions of the Contractor, including General and Supplementary Conditions and general requirements sections, apply to the work specified in this section.

DESCRIPTION OF WORK:

Types of work include:

Gypsum drywall including screw-type metal support system
Drywall finishing (joint tape-and-compound treatment)

Related work that is specified elsewhere includes:

Structural metal framing, Division 5
Vapor Barrier, Section 07190

QUALITY ASSURANCE:

Gypsum Board Standard: GA-216 by Gypsum Association

Metal Support Standard: ASTM C 754

Fire-Resistance Rating:

Where gypsum drywall systems with fire resistance ratings are indicated/required to comply with governing regulations, provide materials and installations identical with applicable assemblies which have been tested/listed by recognized authorities, including UL and AIA.

Manufacturer:

Obtain gypsum board products from single manufacturer/manufacturers recommended by prime manufacturer of gypsum boards.

Allowable Tolerances:

1/16" offsets between planes of board faces; 1/8" in 8'-0" for plumb/level/warp/bow.

PRODUCT HANDLING:

Deliver/identify/store/protect gypsum drywall materials to comply with referenced standards.

PART 2 – PRODUCTS

MANUFACTURER:

Subject to compliance with requirements, provide products of one of the following:

Metal Support Materials

Gold Bond Building Products, National Gyp.
Intryco Inc., Milcor Division
United States Gypsum Company

Direct Suspension Systems

Chicago Metallic Corporation
Donn Corporation
National Rolling Mills Company
Roblin Building Products, Inc.

Gypsum Board and Related Products:

The Celotex Corporation
The Flintkote Company
Georgia-Pacific Corporation
Gold Bond Building Products Division, National Gypsum Company
United States Gypsum Company (specified)

METAL SUPPORT MATERIALS:

Ceiling Support Materials and Systems:

Size ceiling support components to comply with ASTM C-754 unless indicated otherwise.

Main Runners: Steel channels with rust inhibitive paint finish, hot or cold-rolled.

Hanger Wire: ASTM a-641, soft, Class 1 galvanized.

Hanger Anchorage Devices: Screws, clips, bolts, cast-in-place concrete inserts or other devices applicable to indicated method of structural anchorage for ceiling hangers and whose suitability for use intended has been proven through standard construction practices or by certified test data. Size devices for 3 x calculated load supported except size direct pull-out concrete inserts for 5 x calculated loads.

Furring Members: ASTM C-645; 20 gauge, hat-shaped.

Furring Anchorages: 16 gauge galvanized wire ties, manufacturer's standard wire-type clips, bolts, nails or screws as recommended by furring manufacturer and complying with C-754.

Wall/ Partition Support Systems:

Install supplementary framing, blocking, and bracing to support fixtures, equipment, services, heavy trim, furnishings, and similar work which cannot be adequately supported on gypsum board alone. Provide special bracing including horizontal 1-1/2" steel channels thru studs and angle bracing at partitions with finish on only one side or at partitions exceeding 10'-0" in height. Provide a minimum of 20 gauge studs and tracks unless noted otherwise on the drawings.

Isolate stud system from transfer of structural loading to system, both horizontally and vertically. Provide clip or cushioned type joints to attain lateral support and avoid axial loading.

Install runner tracks at floors, wallings, and structural wall and columns where gypsum drywall stud system abuts other work, except as otherwise indicated.

Extend all partition gypsum board and steel stud system through acoustical or gypsum board ceilings and elsewhere the floor slab above and/or structure and/or roof deck. Seal at top to avoid smoke penetration. Space studs at 16" o.c. except as otherwise indicated.

Frame openings with vertical studs securely attached by screws at each jamb either directly to frames or to jamb anchor clips on the frame; install runner track sections (for jack studs) at head and secure to jamb studs.

Provide runner tracks of the same gage as jamb studs. Space jack studs same as partition studs.

Install 20 gage studs at each jamb for all doors up to 4'-0" wide weighing no more than 200 lbs.

Install double 20 gage studs for openings up to 4'-0" wide weighing more than 200 lbs. but not more than 300 lbs. Screw attach web of back to back studs directly to jamb anchor clips nested between flange of stud.

Erect thermal insulation vertically and hold in place with (2) furring members spaced at 24" o.c. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails or power-drive fasteners spaced 24" o.c. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; start from this furring member with 3" wide strip of insulation followed by furring member in the normal manner. At interior corners, space second member no more than 12" from corner and cut insulation to fit. Until gypsum board is installed hold insulation in place with staples fabricated from 18 gage tie wire and inserted through slot in web of member, or by an equally accepted method.

GYPSUM BOARD PRODUCTS:

Gypsum Board: (Also known as gypsum wallboard)

Regular type with tapered long edges. Thickness of 5/8". See drawings for partition types to receive regular GWB.

TRIM ACCESSORIES:

Provide manufacturer's standard trim accessories of types indicated for drywall work, formed of galvanized steel unless otherwise indicated, with either knurled and perforated or expanded flanges for nailing/stapling, beaded for concealment of flanges in joint compound. Provide corner beads, L-type edges trim-beads, U-type edge trim-beads, special L-kerf-type edge trim-beads, and one-piece control joint beads.

JOINT TREATMENT MATERIALS:

ASTM C-475; type recommended by manufacturer for application indicated, except as otherwise indicated.

Joint Compound:

Ready-mix vinyl-type for interior use; two separate grades; one specifically for bedding tapes and filling depressions, and one for topping and sanding.

MISCELLANEOUS MATERIALS:

Provide auxiliary materials for gypsum drywall work of the type and grade recommended by the manufacturer of the gypsum board.

PART 3 – EXECUTION

PREPARATION FOR METAL SUPPORT SYSTEMS:

Coordinate work with structural ceiling work to ensure that inserts and other structural anchorage provisions have been installed to receive ceiling hangers.

Furnish concrete inserts, hanger clips and similar devices to other trades for installation well in advance of time needed for coordination with other work.

INSTALLATION OF METAL SUPPORT SYSTEMS:

Do not bridge building expansion joints with support system, frame both sides of joints with furring and other support as indicated. Nail or screw furring members to wood framing as indicated.

Ceiling Support Suspension Systems:

Secure hangers to structural support by connecting directly to structure where possible, otherwise connect to inserts, clips or other anchorage devices or fasteners as indicated.

Space main runners 4'-0" o.c. and space hangers 4'-0" o.c. along runners, except as otherwise shown.

Level main runners to a tolerance of 1/4" in 12'-0", measured both lengthwise on each runner and transversely between parallel runners.

Wire-tie/clip furring members to main runners/other structural supports as indicated.

Direct-hung Metal Support System: Attach perimeter wall track or angle wherever support system meet vertical surfaces. Mechanically joint support members to each other and butt-cut to fit into wall track.

Space furring member 16" o.c., except as otherwise indicated.

Install auxiliary framing at termination of drywall work, and at openings for light fixtures and similar work, as required for support of both the drywall construction and other work indicated for support thereon.

GENERAL INSTALLATION REQUIREMENTS:

Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 1'-0" in alternate courses of board.

Install ceiling boards in the direction and manner which will minimize the number of end-butt joints, and which will avoid end joints in the central area of each ceiling. Stagger end joints at least 1'-0".

Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16" open space between boards. Do not force into place.

Locate either edge or end joints over supports, except in horizontal applications or where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that both tapered edge joints abut, and mill-cut or field-cut end joints abut. Do not place tapered edges against cut edges or ends. Attach gypsum board to framing and blocking as required for additional support at openings and cutouts.

Form control joints and expansion joints with space between edges of boards, prepared to receive trim accessories.

Space fasteners in gypsum boards in accordance with referenced standards and manufacturer's recommendations, except as otherwise indicated.

INSTALLATION OF DRYWALL TRIM ACCESSORIES:

Where feasible, use same fasteners to anchor trim accessory flanges as required to fasten gypsum board to supports. Otherwise, fasten flanges by nailing or stapling in accordance with manufacturer's instructions and recommendations.

Install metal corner beads at external corners of drywall work. Install metal edge trim when edge of gypsum board would otherwise be exposed/semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound except where semi-finishing type is indicated.

Install L-type trim where work is tightly abutted to other work, and install special kerf-type where other work is kerfed to receive long leg of L-type trim. Install U-type where edge is exposed/revealed/gasketed/sealant-filled (including expansion joints).

INSTALLATION OF DRYWALL FINISHING:

Apply treatment at gypsum board joints (both directions), flanges of trim accessories, penetrations, fasteners, heads, surface defects and elsewhere as required to prepare work for decoration. Pre-fill open joints and rounded or beveled edges, using type of compound recommended by manufacturer.

Apply joint tape at joints between gypsum boards, except where a trim accessory is indicated.

Apply joint compound in 3 coats (not including pre-fill of openings in base), and sand between last 2 coats and after last coat.

Install all gypsum board to ensure a tight fit at corners and at all mechanical and electrical pipes/ducts, etc., apply Fire-Stop caulking to maintain fire ratings.

FINISH QUALITY

Exposed to view: Finish Level 4

Concealed from view: Finish Level 1; except all fire separation and smoke partitions shall be in strict accordance with U.L. fire/smoke tests of rated assemblies for such protection.

PROTECTION OF WORK:

Installer shall advise Contractor of required procedures for protecting gypsum drywall work from damage/deterioration during remainder of construction period.

END OF SECTION 09250

SECTION 09510 – ACOUSTICAL CEILINGS

PART 1 – GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and General Requirements, apply to work of this section.

DESCRIPTION OF WORK:

Extent of each type of acoustical treatment is shown and scheduled on drawings. Types of acoustical treatments specified in this section includes acoustical panel ceilings, gypsum/vinyl laminated ceiling panels, and exposed suspension systems.

QUALITY ASSURANCE:

Where acoustical ceilings are indicated to comply with fire hazard classification for flame spread, including fuel contribution/smoke development classifications where indicated, provide acoustical materials which have been tested/rated/labeled by UL for indicated ratings as listed in UL "Classified Building Materials Index".

Classification: Maximum of 25 for flame spread, fuel contributed, and smoke developed.

SUBMITTALS:

Product Data:

Manufacturer's product specifications/installation instructions for each acoustical treatment/suspension system, including certified laboratory test reports and other data as required to show compliance with these specifications.

Include manufacturer's recommendations for cleaning/refinishing acoustical units, including precautions against materials and methods which may be detrimental to finishes and acoustical performances.

Shop Drawings:

Manufacturer shall submit detailed shop drawings of acoustical wall panels and baffles. Drawings shall show panel layout, edge and joint details, and mounting system proposed.

Samples:

Set of 12" square samples for each type acoustical unit required, showing full range of exposed color and texture to be expected in completed work; set of 12" long samples of each exposed runner and molding.

Maintenance Stock:

At time of completing installation deliver stock of maintenance material to Owner. Furnish full size units matching units installed, packaged with protective covering for storage and identified with appropriate labels.

Furnish 2 cartons of extra 2 x 2 panels for Type 1 ceiling.

JOB CONDITIONS:

Do not install interior acoustical ceilings unit space enclosed and weatherproof until wet-work in space completed and nominally dry; until work above ceilings completed; and until ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

PART 2 – PRODUCTS

Mineral Fiber Acoustical Ceiling Panels:

Manufacturer's standard lay-in panels, type recommended by manufacturer for application indicated; 24" x 24" grid-size panes with white finish.

Units not less than 5/8" thick, density not less than 10#/c.f., medium-coarse non-directional texture, NRC 0.50-0.60, STC 35-39, light reflectance over 75%.

Product/Manufacturer: Provide one of the following for 24" x 24" panels:

Type 1

Fine Fissured 1734, square edge

Units not less than 5/8" thick, density not less than 10#/c.f., fine non-directional texture, NRC 0.50-0.60, STC 35-39, light reflectance over 75%

Type 2

Gypsum/Vinyl Laminate Ceiling Panels:

Manufacturer's standard lay-in panels, type recommended by manufacturer for application indicated; 1/2" thick, 24" x 24" grid-size panes with white washable finish.

Gridstone gypsum ceiling panels; Gold Bond Gypsum Products or approved equal.

CEILING SUSPENSION MATERIALS:

Comply with ASTM C-635, as applicable to type of suspension system required for type of ceiling units indicated. Coordinate with other work supported by or penetrating through ceilings, including light fixtures, HVAC equipment and partition system (if any). Structural class to be intermediate-duty system.

Attachment Devices:

Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung.

Hanger Wires:

Galvanized carbon steel, ASTM A-641, soft temper, prestretched, yield-stress load of at least 3 times design load, but not less than 12 gauge (0.106").

Type of System:

Direct-hung suspension system.

Carrying Channels: 1 1/2" steel channels, hot-rolled or cold-rolled, not less than 0.475#/lineal foot.

System Manufacturer: Same as acoustical unit manufacturer or one of the following:

Chicago Metallic Corporation
National Rolling Mills Co.

Roblin Building Products
Roper Eastern Building Systems

Edge Moldings:

Manufacturer's standard channel molding for edges/penetrations of ceiling, single flange of molding exposed, white baked enamel finish unless other wise indicated. Provide radius corners trim unit at bullnose C.M.U. outside corners.

Exposed Suspension System:

Manufacturer's standard exposed runners/cross-runners/accessories, of types and profiles indicated, exposed cross runners coped to lay finish with main runners.

Provide uniform factory-applied finish on exposed surfaces of ceiling suspension system, including moldings, trim, and accessories. Manufacturer's standard baked enamel finish in white.

MISCELLANEOUS MATERIALS:

Acoustical Sealant:

Heavy-bodied, non-shrinking, non-drying, non-sag mastic compound intended for interior sealing of concealed construction joints.

PART 3 - EXECUTION

INSPECTION:

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

PREPARATION:

Furnish layouts for inserts, clips, or other supports required to be installed by other trades for support of acoustical ceilings.

Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders; comply with reflected ceiling plans wherever possible.

INSTALLATION:

Install in accordance with manufacturer's printed instructions to comply with governing regulations, fire resistance rating requirements as indicated, and industry standards applicable to work. Arrange acoustical units and orient directionally-patterned units (if any) in manner to coordinate with mechanical/electrical plans. Install tile with pattern running in one direction.

Install suspension systems to comply with ASTM C-636, with hangers supported only from building structural members. Locate hangers near each end and spaced 4'-0" along each carrying channel or direct-hung runner, unless otherwise indicated, leveling to tolerance of 1/8" in 12'-0".

Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices which are secure and appropriate for substrate, and will not deteriorate/fail with age/elevated temperatures.

Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.

Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.

Screw-attach moldings to substrate at intervals not over 16" o.c. and not more than 3" from ends, leveling with ceiling suspension system to tolerance of 1/8" in 12'-0". Miter corners accurately and connect securely.

Install acoustical panels in coordination with suspension system, with edges concealed by support suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.

SHOP DRAWINGS:

This contractor shall prepare and submit to the Architect for approval, layout of acoustical ceilings showing location of recessed lighting fixtures, HVAC outlets and clips for wire hangers.

ADJUST AND CLEAN:

Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09510

SECTION 09650 – RESILIENT FLOORING

PART 1 – GENERAL

RELATED DOCUMENTS

General provisions of Contract, including General and Supplementary Conditions and General Requirements, apply to work of this section.

DESCRIPTION OF WORK:

Extent of resilient flooring and accessories is shown on drawings and in schedules. Flooring includes Luxury Vinyl Tile (LVT).

QUALITY ASSURANCE:

Manufacturer:

Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, and sealants.

SUBMITTALS:

Samples:

Submit one set of samples of each type, color and finish of resilient flooring and accessory required, including full range of color and pattern variation. Provide full-size tile units and 6" long samples of accessories.

Maintenance Instructions:

Submit two copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

Replacement Material:

After completion of work, deliver to project site replacement materials from same manufactured lot as materials installed, and as follows:

Tile flooring, not less than two boxes for each type and color installed at each school.

JOB CONDITIONS:

Maintain minimum temperature of 65° F (18° C) in spaces to receive resilient flooring for at least 40 hours prior to installation, during installation, and for not less than 48 hours after installation. Subsequently, maintain minimum temperature of 55°F (13°C) in areas where work is completed.

Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Moisture content of concrete slabs and environmental conditions must be within limits recommended by manufacturer of products being installed.

PART 2 – PRODUCTS

MATERIALS:

LVT Flooring

American Biltrite Sonata Wood
Total Thickness- 2.5 mm
Wear Layer- 20 mil.
Plank Size- 9" x 48"

-or-

Mannington Access Collection Wood
Total Thickness- 2.5 mm
Wear Layer- 20 mil.
Plank Size- 5.91" x 39.37"

-or-

Patcraft Timber Grove II,
Total Thickness- 3.0 mm
Wear Layer- 20 mil.
Plank Size- 8" x 48"

A maximum of two colors will be selected by the Architect.

Resilient Base:

Provide rubber base complying with Specification F-1861, Group 2, with matching end stops, color as selected, 4" high as listed on the Finish Schedule, 1/8" thickness furnished in 120 ft. coil rolls; standard cove. Provide manufacturers pre-formed inside and outside corners.

Resilient Edge Strips:

1/8" thick, homogeneous rubber composition, tapered or bullnose edge, color to match flooring, or as selected by Architect from standard colors available; not less than 1" wide. Install where tile abuts other flooring materials, profiles as shown.

Adhesives (Cements):

Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions. Fed. Spec MMM-A-110.

Water Emulsion Wax:

Federal Specification P-W-155.

PART 3 - EXECUTION

INSPECTION:

Installer must examine areas/conditions under which resilient flooring/accessories are to be installed and must notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer.

PREPARATION:

Vacuum surfaces to be covered, and inspect subfloor. Start of flooring installation indicates acceptance of subfloor conditions and full responsibility for completed work.

Use leveling compound as recommended by flooring manufacturer for filling small cracks and depressions in subfloors.

Perform moisture tests on concrete slabs to determine that concrete surfaces are sufficiently cured and ready to receive flooring.

INSTALLATION:

Place flooring with adhesive cement in strict compliance with manufacturer's recommendations. Butt tightly to vertical surfaces, thresholds, nosings, and edgings. Scribe around obstructions to produce neat joints, laid tight, even, and straight. Extend flooring into toe spaces, door reveals, and into closets and similar openings.

Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device.

Install flooring on covers for telephone and electrical ducts, and other such items as occur within finished floor areas.

Maintain overall continuity of color and pattern with pieces of flooring installed in these covers. Tightly cement edges to perimeter of floor around covers and to covers.

Tightly cement flooring to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll flooring at perimeter of each covered area to assure adhesion.

LVT Floors:

Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than ½ tile at room perimeters. Lay tile square to room axis, unless otherwise shown. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tiles are not acceptable. Lay tile in direction as directed by the Architect.

Accessories:

Apply resilient base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable, with performed corner units. Tightly bond base to backing throughout length of each piece, with continuous contact at horizontal and vertical surfaces using "double paste method". **Glue shall be within ½" of top of base.**

On masonry surfaces, or other similar irregular surfaces, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.

Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.

Cleaning and Protection:

Remove any excess adhesive/surface blemishes using neutral type cleaners recommended by flooring manufacturer. Protect installed flooring with heavy Kraft paper or other covering.

Finishing:

After completion of project/prior to final inspection of work, thoroughly clean floors and accessories.

Apply polish/buff with type of polish, number of coats and buffing procedures in compliance with flooring manufacturer's instructions.

END OF SECTION 09650

SECTION 09900 - PAINTING

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions and general requirements, apply to the work specified in this section.

DESCRIPTION OF WORK:

Extent of painting work is shown on drawings and schedules, and as herein specified. The work includes painting and finishing of interior and exterior surface preparation, minor interior caulking, priming and coats of paint specified are in addition to shop priming and surface treatment specified under other sections of work.

The work includes field painting of exposed bare and covered pipes and ducts and of hangers, exposed steel and iron work, and primed metal surfaces of equipment installed under mechanical and electrical work, except in equipment rooms or "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats. Paint exposed surfaces whether or not colors are designated in "schedules", except where natural finish of material is specifically noted as surface not to be painted. Where items or surfaces are not specifically mentioned, paint same as adjacent similar materials or areas. If color or finish is not designated, Architect will select from standard colors available for materials systems specified.

Paint exterior project sign with exterior wood primer followed by 2 coats of house paint in colors approved by the Architect. Lettering on sign shall be as shown, see drawings for details.

Following categories of work are not included as part of field-applied finish work, or are included in other sections of these specifications:

Pre-Finished Items: Unless otherwise indicated on Page 3 of this Section, do not include painting, except where otherwise noted, when factory-finishing or installer finishing is specified for such items as (but not limited to) metal toilet enclosures, prefinished partition systems, acoustic materials, finished mechanical and electrical equipment including light fixtures, switchgear and distribution cabinets, prefinished equipment and pre-finished toilet stall doors.

Caulking: Sealant joints at masonry openings and other joints to be made watertight is specified under Division 7. **Caulking of interior dissimilar materials shall be a part of the work of this section.**

Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces such as walls or ceilings in concealed areas and generally inaccessible areas, foundation spaces, furred areas, utility tunnels, pipe spaces, duct shafts and elevator shafts.

Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting, unless otherwise indicated.

SUBMITTALS:

DELIVERY AND STORAGE:

Deliver materials to job site in original/new/unopened packages and containers bearing manufacturer's name, label, and following information:

Manufacturer's stock number and date of manufacturer
Manufacturer's name

SECTION 09900 - PAINTING

Contents by volume, for major pigment and vehicle constituents
Thinning instructions
Application instructions
Color name and number
Drying time

Product Data:

Submit manufacturer's technical information including paint label analysis and application instructions for each material proposed for use.

Samples:

Submit samples for Architect's review of color and texture only. Provide listing of material and application for each coat of each finish sample. On 12" x 12" x 1/8" hardboard provide two samples of each color and material with texture to simulate actual conditions. Resubmit samples as requested by Architect until acceptable sheen, color and texture is achieved. On actual wood surfaces provide two 4" x 8" x 3/4" samples of natural and stained wood finish. Label and identify each as to location and application. On concrete masonry provide two 4" square samples of masonry for each type of finish and color, defining filler, prime and finish coat.

JOB CONDITIONS:

Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50° F. and 90° F., unless otherwise permitted by paint manufacturer's printed instructions. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45° F and 95° F unless otherwise permitted by paint manufacturer's printed instructions. Do not apply paint in snow, rain, fog, mist or when relative humidity exceeds 85%; or to damp or wet surfaces unless otherwise permitted by paint manufacturer's printed instructions. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

PART 2 - PRODUCTS

COLORS AND FINISHES:

Paint colors, surface treatments, and finishes, are indicated in "schedules" prepared by Architect.

Paint Coordination:

Provide finish coats which are compatible with prime paints used. Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information on characteristics of finish materials proposed for use, to ensure compatible prime coats are used. Provide barrier coats over incompatible primers or remove and re-prime as required. Notify Architect, in writing, of any anticipated problems using specified coating systems with substrates primed by others.

MATERIAL QUALITY:

Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable. Proprietary names used to designate colors or materials are not intended to imply that products of named manufacturer are required to exclusion of equivalent products of other manufacturers.

Manufacturers:

Benjamin Moore, Devoe, Minwax, PPG Paint, Valspar, Sherwin Williams (Promar 200 walls). Sherwin Williams used for reference except as noted. Provide undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.

SECTION 09900 - PAINTING

INTERIOR PAINT SYSTEMS:

Gypsum Drywall:

- 1st Coat: Sherwin Williams Primer- B28W02651 ProMar 200 Latex
- 2nd Coat, 3rd Coat: Sherwin Williams B20W12651 ProMar 200 *Semi Gloss or Flat Latex

*Refer to Finish Schedule for required sheen.

Ferrous Metal, Doors, Door Frames, Metal Handrails:

- 1st Coat: Sherwin-Williams Primer- B66W01310- PI PROCRYL PR OF W
- 2nd Coat, 3rd Coat: Sherwin-Williams B54W00101 Industrial Enamel Gloss

Interior Stained Wood Flooring:

- 1st Coat: Penetrating Oil Wood Stain Minwax Wood Finish Penetrating Stain
- 2nd Coat: Wood Sealer Minwax Sanding Sealer
- 3rd Coat: Polyurethane-Satin Minwax Polyurethane 350 VOC
- 4th Coat: Same as third coat

PART 3 - EXECUTION

INSPECTION:

Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing, of conditions detrimental to proper and timely completion of work. Do not proceed until unsatisfactory conditions have been corrected in a manner acceptable to Applicator.

Starting of painting work will be construed as applicator's acceptance of surfaces and conditions within any particular area. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

SURFACE PREPARATION:

Perform preparation/cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items. Clean surfaces before applying paint or surface treatments.

Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so contaminants from cleaning process will not fall onto wet, newly-painted surfaces.

Cementitious Materials:

Prepare cementitious surfaces of concrete, concrete block and cement plaster to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze. Patch all concrete ceiling areas; remove all fins and rough spots. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application of paint. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed directions. Pressure wash previously painted surfaces prior to primer application.

Ferrous Metals:

Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.

Galvanized Surfaces:

SECTION 09900 - PAINTING

Clean free of oil and surface contaminants with non-petroleum based solvent.

MATERIAL PREPARATION:

Mix and prepare painting materials in accordance with manufacturer's directions. No job mixing or tinting shall be done on the site. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing, and application of paint in a clean condition, free of foreign materials and residue. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

APPLICATION:

Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied. Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color, and appearance. Give special attention to insure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently-fixed equipment or furniture with prime coat only before final installation of equipment. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint. Paint back sides of access panels, and removable or hinged covers to match exposed surfaces. Finish doors on tops, bottoms and side edges same as faces, unless otherwise indicated. Sand lightly between each succeeding enamel or varnish coat. Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted, unless otherwise indicated.

Scheduling Painting:

Apply first-coat material to cleaned, pretreated or otherwise prepared surfaces for painting as soon as practicable after preparation and before subsequent surface deterioration. Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

Field Quality Control:

At the option of the Architect, the applicator may be required to complete a sample room, space, or item in accordance with these specifications, for approval of color, texture, and workmanship. No painting work shall proceed until the Architect has approved the designated sample and all subsequent work shall be equal to that of the designated sample. For spray applications, surfaces shall not be smaller than 200 sq. ft. for project standard.

Minimum Coating Thickness:

Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

Prime Coats:

Apply prime coat of material which is required to be painted or finished, and which has not been prime coated by others. Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.

Enamel Finish:

Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling such as laps, irregularity in texture, skid marks, or other surface imperfections.

Pigmented (Opaque) Finishes:

Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface

SECTION 09900 - PAINTING

imperfections will not be acceptable.

Completed Work:

Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

CLEAN-UP AND PROTECTION:

During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day. Paint materials to be stored overnight at the job site shall be kept in a locked room designated for paint storage. Provide and maintain a Type "C" fire extinguisher adjacent to the paint storage room. Upon completion of painting work, clean window glass hardware and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces. Protect work of other trades, whether to be painted or not, against damage by painting/finishing work. Correct damage by cleaning, repairing or replacing and repainting as acceptable to Architect. Provide "wet paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations. At completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

END OF SECTION 09900

SECTION 10261 – WALL PROTECTION SYSTEMS

PART 1 - GENERAL

SUMMARY

Protection systems including corner guards.

SECTION INCLUDES

Corner Guard

REFERENCES

American National Standards Institute (ANSI)
American Society for Testing and Materials (ASTM)
Americans with Disabilities Act (ADA)
National Fire Protection Association (NFPA)
Underwriters Laboratory (UL)

SYSTEM DESCRIPTION

Performance Requirements: Provide protection devices that conform to the following requirements of regulatory agencies and the quality control of IPC Door and Wall Protection Systems, InPro Corporation.

1. Fire Performance Characteristics: Provide UL Classified handrails conforming with NFPA Class A fire rating. Surface burning characteristics, as determined by UL-723 (ASTM E-84), shall be flame spread of 10 and smoke development of 350 - 450. Provide ULC (Canada) listed handrails conforming to the requirements of the National Building Code of Canada 2010, Subsection 3.1.13. Surface burning characteristics, as determined by CAN/ULCS102.2, shall be flame spread of 15 and smoke developed of 35.
2. Self-Extinguishing: Provide guards with a CC1 classification, as tested in accordance with the procedures specified in ASTM D-635-74, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position, as referenced in UBC 52-4-1988.
3. Impact Strength: Provide rigid vinyl profile materials that have an Impact Strength of 30.2 ft-lbs/inch of thickness as tested in accordance with the procedures specified in ASTM D-256-90b, Impact Resistance of Plastics.
4. System Impact Resistance: Provide a system that resists an impact of 45.5 ft-lbs while producing no visual blemishes upon the vinyl cover surface and no deformations in the aluminum retainers, as tested in accordance with applicable provisions of ASTM F 476-84, paragraph 18, Impact Test.
5. Chemical and Stain Resistance: Provide materials that show resistance to stain when tested in accordance with applicable provisions of ASTM D-543.
6. Fungal and Bacterial Resistance: Provide rigid vinyl that does not support fungal or bacterial growth as tested in accordance with ASTM G-21 and ASTM G-22.
7. Color Consistency: Provide components matched in accordance with SAE J-1545 - (Delta E) with a color difference no greater than 1.0 units using CIE Lab, CIE CMC, CIE LCh, Hunter Lab or similar color space scale systems.
8. Code Compliance: Provide components that comply with all current ANSI and ADA requirements

SUBMITTALS

Product Data: Manufacturer's printed product data for each product indicated in this section.

Detail Drawings: Mounting details with the appropriate fasteners for specific project substrates.

Samples: Verification samples each component.

Manufacturer's Installation Instructions: Printed installation instructions for each component

..

DELIVERY, STORAGE AND HANDLING

Deliver materials in unopened factory packaging to the jobsite

Inspect materials at delivery to assure that specified products have been received.

C. Store in original packaging in a climate controlled location away from direct sunlight.

PROJECT CONDITIONS

Environmental Requirements: Install products in an interior climate controlled environment.

WARRANTY

A. Standard IPC Limited Lifetime Warranty against material and manufacturing defects.

PART 2 - PRODUCTS

MANUFACTURER

Acceptable Manufacturer: IPC Door and Wall Protection Systems,

InPro Corporation, PO Box 406, Muskego, WI 53150, USA;

Telephone: 800-222-5556, Fax: 888-715-8407,

Internet address: <http://www.inprocorp.com>

Substitutions: Approved equal

Provide wall protection from a single manufacturer.

MANUFACTURED CORNER GUARD UNITS

Corner Guard System

1. 130BN BluNose High Impact Surface Mount Corner Guard Profile

3" (76mm) x 3" (76mm), 135 degree

4' (1.22m) standard height

Custom Angles – Provide vinyl covers and retainers with custom angles. Custom angles shall be between 112.5° and 157.5°. Provide flexible top caps to bend to retainer angle.

MATERIALS

Vinyl Covers: Snap on cover of .080" (2mm) thickness shall be extruded from chemical and stain resistant polyvinyl chloride with the addition of impact modifiers. No plasticizers shall be added (plasticizers may aid in bacterial growth).

Vinyl Retainers: Continuous vinyl retainers of .070" (1.8mm) thickness with a co-extruded Biopolymer Flex apex shall be fabricated from polyvinyl chloride with the addition of impact modifiers.

COMPONENTS

Top caps and bottom caps shall be made of injection molded thermoplastics.

Fasteners: All mounting system accessories appropriate for substrates indicated on the drawings shall be provided.

FINISHES

Vinyl Covers: Colors of the corner guard to be selected by the architect from the IPC finish selection. Surface shall have a pebblette texture.

Molded Components: Top caps and bottom caps shall be of a color matching the corner guards. Surface shall have a pebblette texture.

PART 3 - EXECUTION

EXAMINATION

Examine areas and conditions in which the handrail system will be installed.

1. Complete all finishing operations, including painting, before beginning installation of system materials.
2. Wall surface shall be dry and free from dirt, grease and loose paint.

PREPARATION

General: Prior to installation, clean substrate to remove dust, debris and loose particles.

INSTALLATION

General: Locate protection component as indicated on approved detail drawings for the appropriate substrate and in compliance with the IPC installation instructions. Install component level and plumb at the height indicated on the drawings.

Installation:

Follow manufacturers written instructions for each component.

CLEANING

At completion of the installation, clean surfaces in accordance with the IPC clean-up and maintenance instructions.

END OF SECTION 10261

SECTION 10440 – SIGNAGE

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions, General Requirements, and Division 1 apply to the work specified in this section.

SCOPE:

Work Included In This Section:

Interior and exterior signage as shown on the drawings and specified including all supplementary materials and installation accessories required for a complete and proper installation.

SUBMITTALS:

Shop Drawings: Show location, arrangement, dimensions, materials, finishes, connections, anchorage and relation to adjacent work.

Manufacturer's Data: Submit manufacturer's printed specifications and installation instructions for work of this Section.

Samples: Submit sample of the specified type of sign.

Schedule of Individual Signs: Prior to fabrication of any signage, submit to the Architect a schedule of signs, both interior and exterior, showing details of each sign and copy to be included on each sign. Do not begin fabrication of any signage prior to written approval by the Architect of this Schedule.

ACCEPTABLE MANUFACTURERS:

Subject to compliance with the Drawings and Specifications, provide signage by one of the following, or equal approved in writing by the Architect.

Interface Architectural Signage (Specified)
Andco Industries
ASI Sign Systems
Image Innovation Group

AMERICANS WITH DISABILITIES ACT:

All signage on the Project that falls under the jurisdiction of the Americans with Disabilities Act (ADA) shall be provided as required to comply with all applicable requirements of ADA. It shall be the responsibility of the Contractor and the signage manufacturer to ensure that all signage complies with ADA.

PART 2 – PRODUCTS

MATERIALS:

In order to describe type and quality required, signage specified below is by Interface Architectural Signage. Subject to compliance with the Drawings and Specifications, signage by other manufacturers listed in paragraph "Acceptable Manufacturers" in Part 1 of this Section will also be acceptable.

Interior Signage: Provide "ADA Complaint Single Unit (Photo Etched Polymer) Tactile & Braille Plaque Modules" by Interface Architectural Signage, or equal approved in writing by the Architect. Refer to Signage Schedule included in this specification for location, quantity, and text copy required. Module type is directly referenced to Interface Architectural Signage.

Colors of the sign and the raised copy will be selected by the Architect from the signage manufacturer's standard colors.

All signs are to be Innerface Signature Series

All signs are to have square corners without border lines

Provide Verdana Upper/Lower Case font.

All signs are to be installed using black styrene, or equal, mounting plates attached to the substrate with screws, then the sign mounted with foam tape to the smooth surface of the mounting plate.

PART 3 – EXECUTION

INSTALLATION

Install in accordance with the Drawings, these Specifications, approved Shop Drawings, manufacturer's printed instructions and ADA requirements.

Work shall be level, plumb and in true plane. Work shall be secure and rigid.

Installation accessories shall be furnished by the signage manufacturer. Do not use installation materials from any other source.

All interior signs are to be installed using black styrene, or equal, mounting plates attached to the substrate with screws, then the sign mounted with foam tape to the smooth surface of the mounting plate.

GUARANTEE:

Any signs that do not remain securely bonded to the substrate or otherwise properly installed for a period of one (1) year after Substantial Completion shall be removed and properly reinstalled at no additional cost to the Owner.

END OF SECTION 10440

Forsyth County Dental Suite

Signage Schedule

(Interface Arch. Signage Module reference)

ROOM NO.	Room Name	Module Type	# Req'd	@ Door Number	Sign Text All Text to have Braille
109	Waiting	3.7	1	109 (left)	Treatment Rooms
100	Office	4.1E/4.11E	1	100 (left)	Office (changeable window)
101	Office	4.1E/4.11E	1	101 (right)	Office (changeable window)
102	Imaging	3.0	1	102 (left)	Imaging
103	HC Treatment Room	5.5	1	103 (right)	HC Treatment Room 5
104	Quiet Treatment Room	5.5	1	104 (left)	Quiet Treatment 6
105	Quiet Treatment Room	5.5	1	105 (right)	Quiet Treatment 7
106	Treatment Room	3.7	1	right of opng.	Treatment Room 8
107	Treatment Room	3.7	1	left of opng.	Treatment Room 9
112	Sterilization	3.7	3	112, 112A, 112B	Sterilization
113	Lab	3.7	1	113 (left)	Laboratory
115	Staff	3.7	1	115 (right)	Staff Lounge
116	Mechanical	3.0	1	116 (left)	Mechanical
117	Office	4.1E/4.11E	1	117 (left)	Office (changeable window)
120	Treatment Room	3.7	1	between opngs.	Treatment Room 4
121	Treatment Room	4.1E/4.11E	1	between opngs.	Treatment Room 3
123	Treatment Room	4.1E/4.11E	1	between opngs.	Treatment Room 2
124	Treatment Room	3.7	1	left of opng.	Treatment Room 1

SECTION 10500 - LOCKERS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications section, apply to work of this Section.

SCOPE:

Furnish and Install:

Metal lockers as shown on the Drawings and specified herein- Double Tier

Include all supplementary components and installation accessories required for a complete and proper installation, ready for use.

Lockers ockers require 4" "Z" base and continuous flat tops. Refer to typical details on the drawings.

QUALIFICATIONS:

Acceptable Manufacturers

Subject to compliance with the Drawings and Specifications, provide lockers by one of the following, or equal approved in writing by the Architect.

Interior Steel Products, Inc.
Lyon Metal Products, Inc.
ASI Storage
Penco Products Inc.
Republic Storage Systems Co.

SUBMITTALS:

Shop Drawings:

Indicate location, arrangement, dimensions, mounting heights, anchorage, materials, finishes, fabrication, hardware and relation to adjacent work.

Manufacturer's Data:

Submit (in duplicate) manufacturer's technical data giving materials, thickness of parts, function and installation instructions.

Manufacturer's Color Chart:

Showing one standard color from which locker color will be selected by the Architect.

PROTECTION:

Protect lockers from physical damage until final acceptance. Protect by means of heavy coverings or other equal means.

PART 2 – PRODUCTS

MATERIALS:

Doors and door frames shall be fabricated from cold rolled and stretcher leveled sheet steel. Other parts shall be fabricated from mild cold rolled steel. All steel shall be free from imperfections and capable of taking a high grade baked on enamel finish.

Furnish lockers as required to be installed on concrete curb furnished by other trades at corridors and prefinished metal "Z" base provided by the locker manufacturer at Kitchen.

Furnish continuous one way flat steel tops suitable to receive fur down soffit.

Doors:

Shall be 16-gauge steel one-piece construction adequately flanged. Construction shall consist of two (2) right angles at hinge side and one (1) right angle formation at other edges, or structurally equal fabrication.

All flanges shall be welded together at corners.

Doors shall have manufacturer's standard louver vents at top and bottom of each door.

Door Frames

Shall be not less than 16 gauge steel capable of taking same high-grade finish as balance of locker.

All parts to be channel formation securely welded together. Sides of frame shall form a continuous door strike.

Locking Device and Handles:

Locking device shall engage from at a minimum of two points.

Locking to be padlock furnished by Owner.

All handle parts, including fixed case and lifting trigger to be made from sturdy zinc die cast metal with tensile strength not less than 40,000 psi. Padlock attachment to be integral part of lift, which shall be attached directly to locking bar and protected by fixed handling housing.

Rubber Silencers:

Doors and locking devices shall be furnished with rubber silencers to prevent metal-to-metal contact during operation.

Hinges:

Shall be at least 2" wide of the full-loop, tight pin style, minimum .050" steel, 5-knuckle type, securely attached to frame and door. Locker doors shall have minimum of two hinges.

Body:

All locker body components shall be made of 24 gauge cold rolled steel specially flanged for added strength and rigidity to ensure tight joints between bolts. All bolts and nuts shall be zinc plated or equal rust-retardant treatment.

Finish:

All exposed steel parts, including inside of doors and inside of lockers, shall be thoroughly cleaned and finished with a primer coat and finish coat of baked-on enamel. There shall be no runs or blisters; only a smooth surface shall be accepted. Where bolt heads are visible on the exterior, they shall be finished to match the surface upon which they are attached. Bolts and nuts shall be rust proofed before finishing.

Number Plates:

Each locker shall have an aluminum number plate with black numerals not less than 3/8" high. Plates to be attached near top of door.

Coat Hooks:

All lockers shall have one double prong ceiling hook and three single prong wall hooks on sides and back. All hooks shall have ball points and shall be made of steel. All hooks shall be attached with two (2) bolts or rivets.

Ventilation:

Doors shall be louvered at top and bottom for ventilation.

Miscellaneous:

Provide filler panels and cover plates to properly and neatly trim out the lockers to walls. Minimum 18 gauge and finish to match lockers.

PART 3 – EXECUTION

INSTALLATION

Install lockers in true alignment, plumb and secure as detailed and in locations shown on the Drawings.

Installation of lockers and benches is to be in accordance with the Drawings and Specifications, the manufacturer's written instructions and approved shop drawings.

Check operation of all doors and locking devices and verify that all operating parts are functioning properly without interface or malfunction of any kind.

END OF SECTION 10500

SECTION 10800 – ACCESSORIES

SCOPE:

Furnish and install the following accessories:

1. Towel Dispenser – provided by Owner, installed by General Contractor.
2. Soap Dispenser – provided by Owner, installed by General Contractor.
3. Sanitizer Dispenser- provided by Owner, installed by General Contractor
4. Sharps Disposal- Provided by Owner, install by General Contractor

The numbers listed above correspond to the accessories shown on the drawings.

Provide wood blocking for all Accessories. Owner to locate all accessories not shown on drawings before installation of drywall.

Upon completion of installation clean all accessories and remove all layout markings.

END OF SECTION 10800

SECTION 12320 – ARCHITECTURAL CASEWORK

PART 1 - GENERAL

DESCRIPTION

This section specifies wood veneer casework, plastic laminate casework as detailed on the drawings, including related components and accessories required to form integral units. Wood casework items shown on the drawings, but not specified below shall be included as part of the work under this section, and applicable portions of the specification shall apply to these items. Each like item of casework shall be of the same design and by one manufacturer. All doors and drawers shall receive a lock.

Where shown, provide plastic laminate casework items.

Provide Solid Surface countertops at locations as shown on the drawings.

RELATED WORK

Finish Carpentry- Section 06100

Tile – Section 09300

MANUFACTURER'S QUALIFICATIONS

The fabrication of casework shall be by a manufacturer who produces casework similar to the casework specified and shown.

SUBMITTALS

Manufacturer's Literature and Data:

Locks for doors and drawers

Adhesive cements

Samples:

Counter top, plastic laminate, 150 mm (six inch) square

Wood Face Veneer or Hardwood Plywood

Shop Drawings:

Provide shop drawings for all casework, showing details of construction, including materials, hardware and accessories.

APPLICABLE PUBLICATIONS

The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by basic designation only.

American Society for Testing and Materials (ASTM):

A167-99 (R2004) Stainless and Heat-Resisting chromium-Nickel Steel Plate, Sheet and Strip

A1008-07 Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength Low Alloy

C1036-06 Flat Glass

Composite Panel Association (CPA): A208.1-99 Particleboard

U.S. Department of Commerce Product Standards (Prod. Std): PS1-95 Construction And Industrial Plywood

Hardwood, Plywood and Veneer Association (HPVA): HP.1-04 Hardwood and Decorative Plywood

Architectural Woodwork Institute (AWI): Architectural Woodwork Quality Standards, Guide Specifications Quality Certification Program -

Hardwood Plywood and Veneer Association HP-1 Hardwood and Decorative Plywood

PART 2 - PRODUCTS

PLASTIC LAMINATE:

NEMA LD-3.

Exposed decorative surfaces including countertops, both sides of cabinet doors, and for items having plastic laminate finish. General purpose Type HGL.

Cabinet Interiors Including Shelving: Both of following options to comply with NEMA, LD3.1 as a minimum.

Plastic laminate clad plywood or particle board. (formaldehyde free)

Resin impregnated decorative paper thermally fused to particle board.

Post Forming Fabrication, Decorative Surface: Post forming Type HGP.

PLYWOOD, SOFTWOOD

Prod. Std. PS1, five ply construction from 13 mm to 28 mm (1/2 inch to 1-1/8 inch) thickness, and seven ply for 31 mm (1 1/4 inch) thickness.

PARTICLEBOARD

CPA A208.1, Type 1, Grade 1-M-3.

BASE

Rubber- coved; 4 inch high, (1/8 inch) thick, flexible to conform to irregularities in walls, partitions and floors. (Furnished and installed by Resilient Flooring Subcontractor)

Porcelain Tile at tiled floor areas. (Furnished and installed by Tile Subcontractor)

HARDWARE

Pin tumbler locks are specified, disc tumbler lock "Duo A", with brass working parts and case, as manufactured by the Illinois Lock Company or approved equal. Locks for each type casework, shall be keyed differently and shall be master-keyed. Provide two keys for each lock. Exposed hardware, except as otherwise specified, shall be satin finished nickel or nickel plated brass.

Marking of Locks and Keys:

The name of the manufacturer, or trademark by which manufacturer can readily be identified, legibly marked on each lock.

The key change number marked on the exposed face of lock, and also stamped on each key.

Key change numbers shall provide sufficient information for replacement of the key by the manufacturer.

Hinged Doors:

Concealed Hinges: Blum #75M5580 Clip Hinge, 170 deg. Swing.

Fasteners: Provide full thread wood screws to fasten hinge leaves to door and cabinet frame.

Locks:

Cylinder type pin tumbler.

Equip all doors and drawers with locks.

Drawer and Door Pulls:

Doors and drawers- Amerock Model No. 9362-G10

Drawer Slides:

Full extension steel slides with nylon ball-bearing rollers.

Slides shall have positive stop.

Equip drawers with rubber bumpers.

Shelf Standards (Except For Fixed Shelves):

Bright zinc-plated steel for recessed mounting with screws, 16 mm (5/8 inch) wide by 5 mm (3/16 inch) high providing 13 mm (1/2 inch) adjustment, complete with shelf supports.

Gate Bolt:

Surface mounted barrel type with strike.

Hinged Gates:

Gates shall have two double-acting pivots, size as required.

FABRICATION

Casework shall be of the flush overlay design and, except as otherwise specified, be of premium grade construction and of component thickness in conformance with AWI Quality Standards.

Fabricate casework of plastic laminated covered plywood or particleboard

Where shown, all concealed surfaces shall be plastic laminated.

Glazed doors shall have 5 mm (3/16 inch) thick glass, set in glazing compound.

Electrical fixtures, receptacles, wiring and junction boxes required for fixtures and receptacles:

Factory installed in casework.

For electrical lighting fixtures, see drawings.

For electric receptacles and lighting fixtures installed below or adjacent to wall cabinets or above counter tops, see electrical sections or specifications.

Install wiring in built-in raceways and terminate at junction box mounted on rear of cabinet and counter.

For final hook-up at junction box- see electrical sections of specifications.

Base:

Provide rubber base or porcelain tile base. (Porcelain tile at tiled floor areas)

Remove adhesive from exposed surfaces.

Install base at floor line after casework has been accurately leveled.

Countertops:

Countertops, splashbacks shall be plastic laminate factory glued to either a plywood or solid surface material. (see drawings & spec section 12360 for type required)

Splashbacks shall be in same material as countertop

Provide cut-outs for plumbing trim where shown.

Sinks, Faucets:

Provided by Plumbing Subcontractor installed by Casework subcontractor. Final plumbing connections shall be by the Plumbing Subcontractor.

Support Members for Tops of Tables:

Construct as detailed.

PART 3 - EXECUTION

INSTALLATION

Set casework in place; level, plumb and accurately scribe and secure to walls, and/or floors.

The installation shall be complete including all trim and hardware. Leave the casework clean and free from defects.

FASTENINGS

Fastenings for securing casework to adjoining construction shall be as detailed on the drawings or approved shop drawings.

END OF SECTION 12320

SECTION 12360- SOLID SURFACING COUNTERTOPS

PART 1- GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

SUMMARY: Section Includes:

Solid surface material countertops.
Solid surface material backsplashes.
Solid surface adhesives and sealants.

SUBMITTALS

Product Data: For countertop materials including manufacturer's technical data sheets, and published written instructions.

Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, terminations, and cutouts.

Show locations and details of joints.
Show direction of directional pattern, if any.

Samples for Initial Selection: For each type of material exposed to view. Samples for Verification: For the following products:

Countertop material, 6 inches square.

CLOSEOUT SUBMITTALS

Maintenance Data: For solid surface material countertops to include in maintenance manuals. Include Product Data for care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.

QUALITY ASSURANCE

Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate countertops similar to that required for this Project, and whose products have a record of successful in-service performance.

Manufacturer-certified fabricator.

FIELD CONDITIONS

Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

COORDINATION

Coordinate locations of utilities that will penetrate countertops or backsplashes.

WARRANTY

Manufacturer's Warranty: Manufacturer and installer agree to repair or replace sheet material not free from defects in materials, fabrication, or workmanship within specified warranty period.

Warranty Period: 10 years from date of Substantial Completion.

PART 2- PRODUCTS

SOLID SURFACE COUNTERTOP

Composition Solid-Surface Material: Homogeneous-filled plastic resin complying with ICPA SS-1.

Basis-of-Design Product: Subject to compliance with requirements, provide Wilsonart LLC; or a comparable product by one of the following:

Corian® Design (DuPont)
LX Hausys HI-MACS
LOTTE Staron
Formica

Thickness: 3cm/ 1.25".

Panel Weight: 11 lb/sq. ft. (3cm)

Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

Flame-Spread Index: 25 or less. Smoke-Developed Index: 50 or less.

Colors and Patterns: As selected by Architect from manufacturer's full range.

COUNTERTOP FABRICATION

Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."

Grade: Custom.

Configuration:

Front: Straight, slightly eased at top

Backsplash: Straight, slightly eased at corner

End Splash: Matching backsplash.

Countertops: 3cm/ 1.25" thick, solid surface material with front edge built up with same material.

Backsplashes: 1/2-inch thick, solid surface material

Fabricate tops with Fabricate with loose backsplashes for field assembly & shop-applied edges unless otherwise indicated. Comply with solid surface material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.

Joints: Fabricate countertops in sections for joining in field, with joints at locations indicated on shop drawings.

Joint Locations: Not within 3 inches of a cutout, 1 inch from inside corner for conventional seams, and not where countertop sections less than 36 inches long would result, unless unavoidable.

Cutouts and Holes:

Undercounter Plumbing Fixtures: Make cutouts for fixtures in shop unless unavoidable due to transport, using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.

Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop.

Counter-Mounted Plumbing Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.

INSTALLATION MATERIALS

Adhesive: Product recommended by solid surface material manufacturer.

Sealant may be required for joints at walls.

Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3- EXECUTION

EXAMINATION

Examine substrates to receive solid surface material countertops and conditions under which countertops will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of countertops.

Proceed with installation only after unsatisfactory conditions have been corrected.

INSTALLATION

Install countertops level to a tolerance of 1/8 inch in 8 feet maximum. Do not exceed 1/64-inch difference between planes of adjacent units.

Countertops directly fastened to base cabinets: Fasten countertops by adhering with 100-percent silicone material in dab format (not bead format) to base units into underside of countertop at 18 to 24 inches o.c. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

Countertops fastened to full substrate: Fasten countertops by adhering with 100-percent silicone material in dab format (not bead format) to base units into underside of countertop at 18 to 24 inches o.c. Shim as needed to align subtops in a level plane.

Secure countertops to subtops or wood-web frame with adhesive according to solid surface material manufacturer's written instructions. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

Bond joints with adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to joints to prevent adhesive smears.

Clamp units to temporary bracing, supports, or each other to ensure that countertops are properly aligned and joints are of specified width.

Install backsplashes and end splashes by adhering to wall and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.

Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

Apply sealant to gaps at walls; comply with Section 079200 "Joint Sealants."

END OF SECTION 12360

SECTION 12492 – BLINDS

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Supplementary Conditions, General Requirements, and Division 1 apply to the work specified in this section.

SCOPE:

At all window openings in exterior walls, unless noted otherwise, furnish and install 2" slat horizontal faux wood blinds in manufacturer's wood pattern and/or solid colors.

Entrance doors shall not receive blinds.

MANUFACTURER:

Levolor Visions Faux Wood (specified), Bali, Hunter Douglas or prior to bid approved substitution.

PRODUCTS:

Levolor Visions Faux Wood, 2" slat size. (specified, other manufacturers to provide similar product)

Mounting of the blinds shall be above the window framing. Do not mount blinds in window aluminum or window receptor.

END OF SECTION 12492

