

Project Manual

*Including Administrative Requirements
and Architectural Specifications
for the Proposed*

Renovations to the Main Police Station

PROJECT ADDRESS:

*225 South Taylor Street
Wake Forest, NC 27587*

FACILITY OWNER:

Town of Wake Forest

*301 South Brooks Street
Wake Forest, NC 27587*

ISSUE DATE:

July 9, 2012



Architectural Project Manual

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July 12, 2012

Notice to Bidders

Project:

Renovations to Wake Forest Police Department – Main Station

225 South Taylor Street, Wake Forest, NC 27587

The Town of Wake Forest is soliciting Bid Proposals from qualified General Contractors for the following Project: **Renovations to the Wake Forest Police Department – Main Station.**

The Building is located at 225 South Taylor Street, across from the rear entrance to the Wake Forest Town Hall. The Cost of the Work is estimated to be between \$300,000 and \$500,000.

Electronic copies of the Notice To Bidders and the Bid Package (Drawings and Project Manual) in PDF format will be available for download beginning on Friday July 13, 2012 from the Town of Wake Forest Website at the following link:

http://www.wakeforestnc.gov/residents/finance_purchasing_bidsandannouncements.aspx.

The Owner's Representative is Mickey Rochelle, Facilities Manager, Town of Wake Forest, 301 South Brooks Street, Wake Forest, NC, 27587, telephone (919) 435-9455.

Email: mrochelle@wakeforestnc.gov.

Hale Architecture, PC is the Architectural Designer. Email: halearch1@nc.rr.com.

Kilian Engineering, Inc. is the PME Designer. Email: jvincik@kilianengineering.com.

Requests for technical clarifications should be sent via email to the designers, not to the Owner's Representative or the Purchasing Agent. Written responses & clarifications will be collated and emailed to all registered bidders, generally in the form of an Addendum.

General Contractors interested in bidding may register by emailing complete contact information to the Purchasing Agent, Randy Driver, email: rdriver@wakeforestnc.gov.

Building Description:

The existing Main Station is 7,014 gross square feet (GSF), Type II-B, one story, unsprinklered. Exterior cladding is primarily brick veneer with some precast concrete panels, and aluminum storefront. Existing roof systems include standing seam metal and low-slope membrane type. Most HVAC equipment is located on the existing low-slope roof.

Scope of Work:

Extensive interior demolition and renovation. There are no structural alterations or additions. An existing covered entry will be enclosed into a vestibule, adding 155 unheated square feet. In the southern half of the building, an existing lobby, a former courtroom with associated support spaces and two (2) public toilet rooms will be converted into a new reception/ front desk area, staff offices, conference room and support spaces including two (2) small accessible unisex toilet rooms. In the northern half of the building, some existing offices will be combined into

new, larger work spaces, a larger staff break room and two additional storage rooms.

The project includes but is not limited to: new interior walls with new finishes, acoustic insulation, new suspended ceilings, new lighting & electrical, new plumbing & fixtures, new flooring, new doors & hardware, extensive new or refurbished HVAC systems, and re-painting and finishing of existing walls & doors. Roofing work is generally limited to cutting, patching, flashing & sealing around new mechanical curbs and penetrations.

There is no Site Work included in this project except for minor sidewalk repair, and restoration of any areas around the building that are disturbed as a result of construction activities.

Performance & Payment Bonds shall be required for this project.

The form of Owner-Contractor Agreement will be AIA Document A107, Abbreviated Form of Agreement Between Owner and Contractor, as modified by Supplementary Conditions drafted by the Wake Forest Town Attorney.

There are currently no Bid Alternates.

Historically Underutilized Businesses: Minimum level of HUB participation is 10%. The Town Of Wake Forest will accept HUB firms that are registered with the State HUB Office. Instructions and Forms can be obtained at: <http://www.doa.state.nc.us/hub/forms.htm>

A combination **Walk-thru and Pre-bid Conference** will be held at the Project Site on **Wednesday, July 25, 2012 at 9:00 AM**. General Contractors are required to attend in order to be considered a Responsible Bidder. Major trade subcontractors are also encouraged to attend in order to become familiar with project conditions. Due to the nature of the facility, access is limited. There shall be no individual return visits for any purpose.

Bid Security shall be required in the form of a Bid Bond, or a Cashier's Check made payable to the Town of Wake Forest in the amount of 5% of the Bid Price.

Single Prime Proposals will be received and time-stamped at the Public Works Operations Center, 234 Friendship Chapel Road, Wake Forest, NC 27587 before 1:00 PM on **Tuesday August 7, 2012**. Proposals will be received after 1:30 PM and before 2:00 PM in the Conference Room #015 A/B, on the Ground Floor of the Wake Forest Town Hall (just inside the South Taylor Street entrance)

Bid Opening: There will be a public opening of all Bids at 2:00 PM on **Tuesday August 7, 2012**, in the same Conference Room #015 A/B, on the Ground Floor of the Town Hall.

A certified Bid Tabulation of all Proposals will be distributed by email to all interested parties after the Bid Opening.

The Architect, after reviewing all Proposals with the Facilities Manager and Purchasing Agent for the Town of Wake Forest, will prepare a Contract Award Recommendation Letter for submittal to the Wake Forest Town Administration Department.

The Town of Wake Forest reserves the right to reject any or all bids and make the award as deemed to be in the best interest of the Town of Wake Forest.

END OF NOTICE TO BIDDERS

BID FOR GENERAL CONSTRUCTION (Single Prime Contract)

Date: _____

To: Mickey Rochelle, Facilities Manager
Wake Forest Administration Department
Wake Forest Town Hall
301 South Brooks Street
Wake Forest, North Carolina 27587

Name of Bidder _____

Business Address _____

N.C. License Number: _____ Classification: _____

The undersigned, as authorized representative of the named Bidder, hereby declares that the only entity interested in this Proposal is or are named herein, and that this Proposal is made without connection with any other person, company, or parties making a proposal; and that it is in all respects fair and in good faith without collusion or fraud.

Bidder further declares that he/she has examined the site of the proposed Work and is fully informed with respect to all conditions pertaining to the place where the proposed Work and the Contract Documents (Drawings & Project Manual) are relative thereto.

Further, the Bidder declares that he has examined the Contract Documents (Plans, Notes & Specifications) describing the Work; that he has read and understood all terms, conditions, instructions, notices and Addenda and furnished prior to the opening of bids; and that he has satisfied himself relative to the Work to be performed.

The Bidder proposes and agrees, if his Proposal is accepted, to contract with the Owner (in the form of contract specified) to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation, labor and supervision of same necessary to fully complete the work in complete accordance with the Contract Documents, to the full and entire satisfaction of the Owner for the construction of:

**Renovations To Wake Forest Police Department - Main Station
225 South Taylor Street
Wake Forest, NC 27587**

All base bid work described by these Contract Documents shall be performed for the following amount, based on the itemized amounts listed in this bid form:

BASE BID: _____ Dollars

(\$ _____) for the General Construction Contract.

Alternates:

The Bidder proposes the following sums for Alternate work, inclusive of all materials, labor, delivery, subcontracts, supervision, administrative overhead & profit:

Alternate No. 1: _____

Add / Deduct \$ _____ .

Alternate No. 2: _____

Add / Deduct \$ _____ .

Unit Prices: (none)

Addenda:

The Bidder acknowledges that Addenda have been issued/received as follows:

Addendum No. _____ Date _____

Project Time:

The undersigned Bidder acknowledges that Time Is Of The Essence with respect to this work. Therefore Bidder agrees to begin work on or before the date of the Notice to Proceed; with an adequate force, to carry the work forward in a timely and orderly fashion; and to obtain Substantial Completion (defined here as receipt of an Occupancy Permit for the entire project) no later than:

_____ calendar days from the date of the Notice to Proceed,

subject to changes in the Project Time due to weather events such as precipitation that is above the usual and historical amounts for the same period as established by public Weather Records,

or changes in the Project Time due to Change Orders initiated by the Owner, the Local Reviewing Authority or any other circumstances which are beyond the Contractor's control.

Liquidated Damages / Incentive Payment:

Bidder acknowledges that Liquidated Damages in the amount of \$500 per day, for each day the Work remains incomplete past the proposed date of Substantial Completion, will be paid to the Owner as fair compensation for the loss of use of the Facility.

Alternatively, the Owner will pay to the Contractor an Incentive amount of \$500 per day for early and satisfactory completion of the Work, for each day saved prior to the proposed Date of Substantial Completion.

Acceptance of Proposals:

The Bidder acknowledges that the Owner reserves the right to waive informalities and reject any and/or all bids, should they deem such action to be in Owner's best interest.

Further, the Bidder acknowledges that Owner shall reserve the right to negotiate with the successful bidder to adjust the Contract Price by increasing or decreasing the amount of any item or portion of the work as may be deemed necessary or expedient for establishing an amount suitable for proceeding with Project Financing.

WF Memorandum of Understanding: Insurance and Hold Harmless Requirements

The Bidder has attached a signed copy of the Wake Forest Memorandum of Understanding regarding insurance coverage and "hold harmless" requirements.

Bid Security

The Bidder has attached a fully executed Bid Bond or alternate Bid Security in the form of a Cashier's Check, in the amount of 5% of the Total Base Bid.

Bidder's Signature:

Respectfully submitted,

Authorized Signature: _____

Printed Name & Title: _____

AFFIX CORPORATE SEAL:

END OF BID FORM

Memorandum Of Understanding

This Memorandum of Understanding is for the following job/contract:

2012 Renovations to Wake Forest Police Department – Main Station 225 South Taylor Street, Wake Forest NC 27587

with the following General Contractor:

Through the course of a year, the Town of Wake Forest contracts for various construction, repair, service and professional contracts. The town finds it necessary to impose certain minimum insurance and hold harmless requirements upon contractors performing the work. The insurance requirements are beneficial to both the town and the contractors. In order to be considered an “eligible contractor” to complete projects as called upon, the contractor agrees with the town to the following requirements:

General Provision

The contractor agrees to comply with the specifications of the project as supplied by the Town of Wake Forest and provide for the proper protection of employees and the public by necessary barricades, lights, traffic cones, flagman, etc. The contractor agrees to comply with all federal, state and local safety regulations and requirements pertinent to the job.

Insurance Provisions

- A. Workers’ Compensation: Insurance covering all employees meeting Statutory limits in compliance with the applicable state and federal laws. The coverage must include employer’s liability with a minimum limit of \$1,000,000 for each accident.
- B. Commercial General Liability: Coverage shall have minimum limits of \$1,000,000 each occurrence, general aggregate, products/completed operations aggregate, personal and advertising injury. This shall include premises and operations, independent contractors, products and completed operations, broad form property damage, XCU coverage and contractual liability. The coverage shall be written on an occurrence basis. This limit should apply on a per project or per location aggregate basis.
- C. Business Auto Liability: Coverage shall have a minimum limit of \$500,000 per occurrence, combined single limit for bodily injury liability and property damage liability. This shall include owned vehicles, hired vehicles and non-owned vehicles.

- D. Umbrella/Excess Liability: At the option of the contractor, the limits of the primary general liability, auto liability and employers' liability may be less than stipulated herein, with an excess policy providing the additional limits needed. This form of coverage must be approved by the municipality and will only be acceptable when both the primary and excess policies include the coverage and endorsements required herein.

Special Requirements

- A. Current, valid insurance policies meeting the requirements herein identified shall be maintained to be considered an "eligible contractor". Renewal certificates shall be sent to the Town 30 days prior to any expiration date. There shall also be a 30 day notification to the Town in the event of cancellation or modification of any stipulated insurance coverage. Certificates of insurance meeting the required insurance provisions shall be forwarded to the Town of Wake Forest. Wording on the certificate, which states that no liability shall be imposed upon the company for failure to provide such notice, is not acceptable.
- B. It shall be the responsibility of the contractor to insure that all subcontractors comply with the same insurance requirements that he is required to meet.
- C. The Town of Wake Forest shall be named as an additional insured on the certificate of insurance.

Hold Harmless

The contractor agrees to protect, defend, indemnify and hold the Town of Wake Forest and its officers, employees, and agents free and harmless from and against any and all losses, penalties, damages, settlements, costs, charges, professional fees or other expenses or liabilities of every kind and character arising out of or relating to any and all claims, liens, demands, obligations, actions, proceedings, or causes of action of every kind and character in connection with or arising directly or indirectly out of this agreement and/or the performance hereof and caused by the negligence of the contractors. The contractor further agrees to investigate, handle, respond to, provide defense for, and defend any such claims, etc., at his sole expense and agrees to bear all other costs and expenses related thereto, even if (claims, etc.) is groundless, false or fraudulent.

Memorandum of Understanding for:
2012 Renovations to Wake Forest Police Department – Main Station
225 South Taylor Street, Wake Forest NC 27587
(continued)

This memorandum of understanding expires upon written notification from either party.

Signed:

Town of Wake Forest Representative

Contractor Representative

Title

Title

Date

Date

Witness Signature

Witness Signature

Renovations to Wake Forest Police Department - Main Station

INDEX TO DRAWINGS

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COVER	Location Map and Index to Drawings
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A - 0.1	Life Safety Plan & UL Designs
A - 1.0	Existing Conditions & Demolition Plan
A - 1.1	Floor Plan of Proposed Work
A - 1.2	Reflected Ceiling Plan
A - 2.1	Sections, Details & Finish Schedule
A - 3.1	Windows, Storefront Entrances, Doors & Hardware
P - 1	Plumbing Schedules & General Notes
P - 2	Plumbing Demolition Plan
P - 3	Sanitary Waste & Vent, Riser Diagrams
P - 4	Water Plan & Riser Diagrams
M - 1	Mechanical Schedules & General Notes
M - 2	Mechanical Demolition Plan
M - 3	Mechanical Plan
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E - 1	Electrical Schedules & General Notes
E - 2	Electrical Demolition Plan
E - 3	Lighting Plan
E - 4	Power Plan
E - 5	Panel Schedules & Power Riser Diagrams
E - 6	Electrical Details

SECTION 01 10 00 – GENERAL REQUIREMENTS

Project Name: Renovations to WF Police Department – Main Station
225 South Taylor Street
Wake Forest, NC 27587

Project Owner: Town of Wake Forest, NC
301 South Brooks Street
Wake Forest, NC 27587

Owner’s Representative: Mickey Rochelle, Facilities Manager
Town of Wake Forest - Administration Department
(919) 435-9455

Architectural Designer: Matthew Hale
Hale Architecture, PC
P. O. Box 1437
Wake Forest, NC 27588-1437
(919) 554-4000

PME Designer: Michael Kilian, PE or Jason Vincik, PE
Kilian Engineering
115 Young Street, P. O. Box 3301
Henderson, NC 27536
(252) 438-8778

BUILDING DESCRIPTION:

The existing Main Station is 7,014 gross square feet (GSF), Type II-B, one story, unsprinklered. Exterior cladding is primarily brick veneer with some precast concrete panels, and aluminum storefront. Roof systems include standing seam metal and low-slope membrane type. Most HVAC equipment is located on the existing low-slope roof.

SCOPE OF WORK:

There are no proposed structural alterations or additions. An existing covered entry will be enclosed into a 155 GSF vestibule. There will be extensive interior demolition and renovation. In the southern half of the building, an existing lobby, a former courtroom with associated spaces and two (2) public toilet rooms will be converted into a reception/ front desk area, offices, conference room and support spaces including two (2) small accessible unisex toilet rooms. In the northern half of the building, some existing offices will be combined into larger work spaces, a larger staff break room and two additional storage rooms.

The project includes but is not limited to: new interior walls with new finishes, acoustic insulation, new suspended ceilings, new lighting & electrical, new plumbing & fixtures, new flooring, new doors & hardware, extensive new or refurbished HVAC systems, and re-painting and finishing of existing walls & doors. Roofing work is generally limited to cutting, patching, flashing & sealing around new mechanical curbs.

There is no site work.

There are currently no Bid Alternates.

A combination **Walk-thru and Pre-bid Conference** will be held at the Project Site on Wednesday, July 25, 2012 at 9:00 AM. Bidders (general contractors) and major trade subcontractors are encouraged to attend. Due to the nature of the facility, access is very limited and there can be no individual return visits to examine existing conditions.

Single Prime Proposals must be received and time-stamped at the Public Works Operations Center, 234 Friendship Chapel Road, Wake Forest, NC 27587 before 1:00 PM on Wednesday, August 1, 2012.

Bid Security shall be required in the form of a Bid Bond or a Cashier's Check made payable to the Town of Wake Forest, in the amount of 5% of the Bid Amount.

Bid Opening: There will be a public opening of all Bids at 2:00 PM on Wednesday August 1, 2012, in the Conference Room on the Ground Floor of the Wake Forest Town Hall (directly adjacent to the South Taylor Street entrance).

The Architect will prepare a Certified Bid Tabulation of all Proposals for distribution to all interested parties.

The Architect, after reviewing all Proposals with the Facilities Manager and Purchasing Agent for the Town of Wake Forest, will prepare a Contract Award Recommendation Letter for submittal to the Wake Forest Town Board.

The Certified Bid Tabulation and the Contract Award Recommendation Letter will be presented for consideration at the next available work session of the Town Board of Commissioners. The Contract Award will subsequently be considered at the next available regularly scheduled meeting of the Town Board of Commissioners.

The Town of Wake Forest reserves the right to reject any or all bids and make the award as deemed to be in the best interest of the Town of Wake Forest.

The form of Owner-Contractor Agreement will be AIA Document A107, Abbreviated Form of Agreement Between Owner and Contractor, as modified in Supplementary Conditions by the Wake Forest Town Attorney.

BONDING REQUIREMENTS

The Owner will require the Contractor to provide a **5% Bid Security** (Bond or Cashier's Check), **Performance Bond**, and **Payment Bond** on this project.

INTENT OF THE CONTRACT DOCUMENTS

The intent of the Owner and of the Designers, as expressed through the Contract Documents (Drawings, Notes & Specifications) is to require all of the usual and customary procedures, trade practices, components and accessory items necessary for the complete and code compliant construction of the Work described, whether or not these procedures, trade practices, components and accessory items are consistently shown. If their inclusion can be reasonably inferred as a typical part of a named assembly or piece of equipment, then they shall be assumed to be included in the project scope.

CONTRACTOR'S USE AND CONTROL OF THE WORK AREA

During construction, Contractor will have full use of the Work Area and shall be responsible for:

Control of construction means, methods, techniques, sequences & procedures;
Establishing, maintaining and enforcing appropriate, legally compliant safety measures;
Appropriate and legal environmental protections; and
General order on the premises (work area and site staging areas).

In no event shall the Owner or the Architect have control over, charge of, or any responsibility for, construction means, methods, techniques, sequences or procedures, nor for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner or the Architect in the Contract Documents.

STANDARDS OF PERSONAL BEHAVIOR

The Contractor, his employees and subcontractors shall observe standards of common decency (as interpreted by the Owner and/or Architect) and shall demonstrate constant consideration for the general public, the neighboring homes and institutions, the Recreation Department staff and/or patrons of Taylor Street Park and the Alston-Massenburg Center, representatives of the Owner, the Designers, and other tradesmen.

The following standards are in addition to any that may be standard policy of the General Contractor:

There shall be no drugs or alcohol in possession, sold or consumed on the premises.

There shall be no firearms on the premises.

There shall be no smoking inside the buildings.

There shall be no music players operated on the jobsite; the noise not only presents distractions leading to safety problems, but the individual's selection of music or on-air discussions may be offensive to other workers or to other parties nearby.

There shall be no personal listening devices requiring earphones/headphones on the jobsite; Neither the Contractor, his employees, his subcontractors nor any of his vendors may initiate or prolong any personal contact with the general public, the neighboring homes and institutions, the WF Town Recreation Department staff, patrons of Taylor Street Park and the Alston-Massenburg Center, representatives of the Owner, the Designers, and other tradesmen.

There shall be no loitering by construction personnel on the premises, either before or after normal working hours except for overtime situations which are approved by the Owner's representative.

ENFORCEMENT OF BEHAVIOR STANDARDS

Violation of any of the above listed voluntary standards shall be considered a breach of contract. The Contractor is expected to take immediate action to control the situation, discontinue the infraction and, if necessary, to dismiss the perpetrator, depending on the nature of the violation.

2. PRODUCTS (Not Applicable)

3. EXECUTION (Not Applicable)

END OF SECTION 01 10 00

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

GENERAL

A. CONTRACT MODIFICATION PROCEDURES

1. The nature of construction work – especially renovation & repair work – requires that changes may sometimes be necessary in order to adapt the design to existing conditions. For the benefit of all Parties, a Contract Modification Procedure establishes a fair and orderly means of documenting, carrying out and compensating for changes.
2. No changes, additions or deletions to/from the Work shall be undertaken or paid for without prior submittal of a Change Proposal submitted by the General Contractor and acceptance of same by the Owner's Representative and the Architect or Engineer.
3. Contractor shall submit a Change Proposal in the Form provided, (copy attached) with description of and justification for the change, supplier and/or vendor quotations, and other supporting data.
4. On Owner's approval / acceptance of a Change Proposal Form, the Contractor may proceed with the change work described on the Form.
5. Architect will issue a **Change Order** in a form equivalent to **AIA Document G701** which summarizes all changes to the Contract Sum and/or the Contract Time. This change to the contract is not binding until signed by all parties including the Owner, the Architect, and the General Contractor.
3. When Owner and Contractor disagree on the terms of a proposal, Architect may issue instructions in writing in the form of an email or a **Construction Change Directive** on a form equivalent to **AIA Document G714**, directing the Contractor to proceed with the change. These instructions will contain a description of the change and designate the method to be followed to determine changes to the Contract Sum or the Contract Time.

B. CONTRACT ALLOWANCES

1. Contract Allowances establish place-holders in the Contract Sum for products or systems which are yet to be selected.
2. Advise Architect of the date when selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
3. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.
4. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include [**taxes,**] freight and delivery to Project site.
5. Allowances for this Project are as follows:
Existing ceiling grid repair & replacement @ north end \$ 1,500.

Carpet tile allowance (material only):	\$ 32. per yard
Ceramic floor tile (material only):	\$ 7. per square foot
Appliances (includes cords, icemaker and icemaker hose)	\$ 4,500.

C. ALTERNATES

1. Alternate Prices are requested by the Designer when the Owner is considering multiple options for certain work and wants to have the options priced by the Contractor in order to make a decision. Alternates are proposed on the Bid Form as line item additions to – or deductions from – the Contract Sum.
2. There are no Alternate Prices specified in the Contract Documents for this Project.

D. UNIT PRICES

1. Unit Prices are predetermined costs per unit of measurement, for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification (see Section 012000-A above) if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased. Unit Prices are typically requested for items of work that may be difficult to assess or impossible to quantify prior to their execution (example: rock removal).
2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
3. There are no Unit Prices specified in the Contract Documents for this Project.

E. PAYMENT PROCEDURES

1. Contractor shall submit a **Schedule of Values** at least 10 days before the first Application for Payment. In the Schedule of Values, break down the Contract Sum into at least one line item for each Specification Section. The Architect reserves the right to request further detail and price breakdowns if needed for evaluation of the progress of the Work.
2. Correlate the Schedule of Values with Contractor's Construction Schedule.
3. On or about the 25th day of each month, the Contractor shall submit to the Architect, three (3) copies of an Application for Payment on a form equivalent to **AIA Document G702/703** or a reasonable facsimile.
 - a. Set aside a **Retainage** of ten percent (10%) of each invoice to be held in escrow by the Owner as security until the Final Payment.
 - b. For items that have been purchased by the Contractor and not installed nor present on site, but are warehoused offsite, provide documentation of the purchase such as copies of invoices, along with Certificates of Insurance for specifically named items with the Owner listed as Loss Payee.
4. Attached to each copy of the Application for Payment, the Contractor shall submit to the Architect, a **State Sales & Use Tax Report** in a format provided by the Architect. A copy of the Sales & Use Tax Report form follows this Section.

5. The Architect shall review the Contractor's Application in a timely fashion (within 7 to 14 days) and shall make any adjustments to the requested amount necessary for the amount to match the value of the work in place, in the sole judgement of the Architect. The Architect shall forward the approved Application to the Owner's Representative, who will coordinate with the Town's Accounts Payable office for issuance of payment.
6. At Final Completion, the Contractor shall submit a Final Application for Payment of the remainder of the outstanding Contract Sum, which shows the "Balance to Finish, Including Retainage" line item as zero (\$0).
7. Along with the Final Application for Payment, the Contractor shall submit the following documents as a prerequisite for receiving final payment:
 - a. Completed Punch List.
 - b. Contractor's Affidavit of Payment of Debts and Claims (on a form equivalent to **AIA Document G706**).
 - c. Contractor's Affidavit of Release of Liens (on a form equivalent to **AIA Document G706A**).
 - d. Consent of Surety to Final Payment (on a form equivalent to **AIA Document G707**).
 - e. **Final Sales & Use Tax Report.**

PRODUCTS (Not Applicable)

EXECUTION (Not Applicable)

END OF SECTION 01 20 00

CHANGE PROPOSAL

#CP- _____

Project: _____ Date: _____

Contract: General / Electrical / Mechanical / Plumbing Contractor: _____

Description of Change: _____

Materials (Attach list with Qty, Item, Unit \$, Unit mh, Total mh, OT mh, Total \$)

- 1. Total Direct Cost of Materials \$ _____
- 2. 15% Overhead & Profit on Item 1. \$ _____
 (overhead includes small tools & consumables)
- 3. Sales Tax \$ _____
- 4. Shipping & Transportation \$ _____

Labor (by Contractor's own Forces; include timesheets if requested.)

- 5a. Level 1 Manhours: _____ @ \$ _____ /hr. \$ _____
- 5b. Level 2 Manhours: _____ @ \$ _____ /hr. \$ _____
- 6. 15% Overhead & Profit on Item 5a/5b \$ _____
 (O & P includes Supervisor's time)
- 7. Payroll Taxes & Insurance @ _____ % \$ _____

Equipment (Include copies of quotes & pick-up / delivery tickets)

- 8. Equipment Rental \$ _____
- 9. 10% Overhead & Profit on Item 8. \$ _____

Subcontracts (Include quotes with material & equipment backup)

Note: Subcontractors are subject to same O & P limits as Prime Contractors; 15% for self-performed work and 10% for "sub - subcontractors".

- 10. Subcontracts (Total cost to Prime Contractor) \$ _____
- 11. 10% Overhead & Profit on Item 10. \$ _____

Subtotal of Proposal \$ _____

- 12. Bonds: (_____ % of Subtotal) \$ _____

Total Cost of Change Proposal \$ _____

Time Extension Requested: _____ days Schedule Activity # Affected: _____

Contractor's Signature: _____ Date: _____

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION

- A. General Contractor shall coordinate construction to ensure efficient and orderly installation of each part of the Work.
- B. Schedule and conduct **regular progress meetings** at Project site at **weekly** intervals. Require attendance of each subcontractor or other entity concerned with current progress or involved with planning or coordination of future activities.
 - 1. **Architect** will record minutes and distribute to all attendees and parties to the Contract.

1.2 SUBMITTAL PROCEDURES

- A. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 1. No extension of the Contract Time will be authorized because of failure to transmit submittals far enough in advance of the Work to allow time for review & processing, including resubmittals.
 - 2. Submit **four** copies of each submittal. Architect will return **two** copies to General Contractor, **one** to the Engineering Consultant, and will keep **one** for his records. If General Contractor needs more copies of the Submittals to be returned, then submit additional copies for review.
 - 3. Architect will **return submittals without review** that are received from sources other than Contractor.
 - 4. Architect will **return submittals without review** which bear no markings indicating prior review and approval by the Contractor.
- B. Place a permanent label or title block on each submittal for identification. Provide a clear space approximately 4 x 8 inches on submittal to record Contractor's review and approval markings and action taken by Architect. Include the following information on the label:
 - 1. Project name.
 - 2. Date.
 - 3. Name and address of Contractor.
 - 4. Name and address of subcontractor or supplier.
 - 5. Number and title of appropriate Specification Section.
- C. Identify deviations from the Contract Documents on submittals.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Project Schedule: Submit **two (2) copies** of a comprehensive, fully developed, horizontal Gantt chart or Critical Path type project schedule **two (2) weeks prior to the date established for commencement of the Work**.

- B. Preparation: Indicate each significant construction activity separately. Units of time shall be one calendar week. Identify first workday of each week with a continuous vertical line.

2.2 ACTION SUBMITTALS

- A. Product Data: Mark each copy to show applicable products and options. Include the following:
 - 1. Manufacturer's written recommendations, product specifications, and installation instructions.
 - 2. Wiring diagrams showing factory-installed wiring.
 - 3. Printed performance curves and operational range diagrams.
 - 4. Testing by recognized testing agency.
 - 5. Compliance with specified standards and requirements.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on photo-reproductions of the Contract Documents nor on standard printed data. Submit on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches. Include the following:
 - 1. Dimensions and identification of products.
 - 2. Fabrication and installation drawings and roughing-in and setting diagrams.
 - 3. Wiring diagrams showing field-installed wiring.
 - 4. Notation of coordination requirements.
 - 5. Notation of dimensions established by field measurement.
- C. Selection Samples: Where kind, color, pattern, and texture have not been pre-selected by Architect and named in the Construction Documents, submit samples necessary for initial review & selection of kind, color, pattern, and texture and for a comparison of these characteristics between submittal and actual component as delivered and installed. Include name of manufacturer and product name on label.
 - 1. If variation is inherent in material or product, submit at least **three** sets of paired units that show variations.
 - 2. For items covered by Allowances, submit only products for selection that cost less than or equal to the specified allowance price.
- D. Confirmation Samples: Where kind, color, pattern, and texture have already been pre-selected by Architect and named in the Contract Documents, it is **not** necessary to submit samples.

2.3 INFORMATION SUBMITTALS

- A. Information submittals are not subject to review and return.
- B. Product Certificates: Where required, submit written statements on manufacturer's letterhead certifying that product complies with referenced requirements in the Contract Documents.

2.4 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents (for example, sealed engineering designs for Roof Trusses or other premanufactured / prefabricated items) provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated in the Contract Documents are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

PART 3 - EXECUTION**3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE**

- A. Distribute copies of approved construction schedule to Owner, Architect, subcontractors, testing agencies, and other parties identified by Contractor with a need-to-know schedule responsibility. When revisions are made, distribute updated schedules to the same parties.
- B. Updating: At **weekly** intervals just prior to each regularly scheduled progress meeting, update the schedule to reflect actual construction progress and activities. Bring copies of updated schedule for distribution & discussion at each regularly scheduled progress meeting.
 - 1. As the Work progresses, indicate Actual Completion percentage for each activity.

3.2 SUBMITTAL REVIEW

- A. Contractor shall review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Architect will review each action submittal, routing certain items to the appropriate Engineering Consultant or responsible designer. The Architect or the Engineer shall make marks to indicate corrections or modifications required, stamp and mark as appropriate to indicate action taken, and return copies less those retained.

END OF SECTION 013000

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. **Testing and Inspecting Services** are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
1. Testing and inspecting services are specified in other Sections or Sheets of the Construction Documents or are required by authorities having jurisdiction and shall be performed by independent testing agencies.
 2. Contractor is responsible for scheduling times for tests, inspections, and obtaining samples and notifying testing agency.
 3. Retesting and Reinspecting: Contractor shall pay for additional testing and inspecting required when initial tests and inspections indicate noncompliance with requirements.

- B. **Costs** for performing Testing & Balancing of HVAC Systems shall be included in the Contract Sum.

- C. **Submittals:** Testing agency shall submit a certified written report of each test and inspection to Contractor, Architect, and to authorities having jurisdiction when they so direct.

Reports of each inspection, test, or similar service shall include the following:

1. Name, address, and telephone number of testing agency.
 2. Project title and number.
 3. Date of issue.
 4. Dates and locations of samples and tests or inspections.
 5. Record of temperature and weather conditions at time of sample taking or testing and inspecting.
 6. Names of individuals making tests and inspections.
 7. Description of the Work and test and inspection method.
 8. Complete test or inspection data, test and inspection results, an interpretation of test results, and comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 9. Recommendations on retesting and reinspecting.
 10. Name, title and signature of laboratory inspector, if applicable.
- D. **Testing Agency Qualifications:** An independent agency with the experience and capability to conduct testing and inspecting indicated; and where required by authorities having jurisdiction, that is acceptable to authorities.
- E. **Testing Agency Responsibilities:** Testing agency shall cooperate with Architect and Contractor in performing its duties and shall provide qualified personnel to perform inspections and tests.
1. Agency shall promptly notify Architect and Contractor of irregularities or deficiencies in the Work observed during performance of its services.
 2. Agency shall not release, revoke, alter, or increase requirements of the Contract Documents nor approve or accept any portion of the Work.
 3. Agency shall not perform any duties of Contractor.

- F. Facilitation by Contractor: Contractor shall cooperate with testing agencies and provide auxiliary services as requested, including the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of materials for testing, and assistance in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Security and protection for samples and for testing and inspecting equipment.
- G. Special Tests and Inspections: Contractor will engage a qualified testing agency to conduct additional special tests and/or other inspections when required by authorities having jurisdiction. The cost for Special Tests & Inspections shall be paid by the Owner, using the Contract modification procedures specified in other Sections of this Project Manual.
- H. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified in the Contract Documents shall be the minimum provided or performed. The Contractor acknowledges that actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. Said increase shall be at no additional charge to the Owner.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 014000

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. The General Contractor may use water and electric power service from Owner's existing system without sub-metering and without payment of use charges.
- B. Electrical Subcontractor shall provide temporary service panels, equipment and devices necessary to meet the loading and safety requirements of the National Electric Code and sufficient for general construction needs.
- C. Plumbing Subcontractor shall provide temporary water connections, temporary piping, and a temporary hydrant or similar connection device that will provide water volume and pressure necessary to meet general construction needs.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Temporary heating or cooling equipment: Provide temporary heating and cooling required for curing or drying of completed installations, for protecting installed construction from adverse effects of low temperatures or high humidity, or for worker comfort & safety from extreme temperatures, noxious fumes, etc. Select equipment that will not have a harmful effect on completed installations or elements being installed.
 - 1. Provide self-contained electric heaters or fans with thermostatic control.
 - 2. Use of fuel-burning or open-flame heaters, or salamander-type heating units is prohibited.
 - 3. All equipment shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction (example: Underwriters Laboratories) and marked for intended use.

PART 3 - EXECUTION

3.1 TEMPORARY UTILITIES

- A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water facilities. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. DO NOT USE OWNER'S EXISTING TOILET ROOMS.
- B. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

3.2 TEMPORARY SUPPORT FACILITIES

- A. Field Office: Provide a combination field office/storage trailer with a small meeting space for document storage/viewing, worker safety meetings and jobsite meetings in inclement weather.
 - 1. Provide code-compliant temporary electric service to job site trailer.
(see Section 1.1 A & B above).

- B. Storage: Provide secure storage as well as staging areas for bulk materials as necessary for construction operations. Location of storage and staging areas shall be coordinated with Owner's Representative.
 - 1. Restore storage and staging areas to a condition equal or better to their original pre-construction state.
- C. Waste Collection: Contractor shall provide waste-collection containers in sizes adequate to handle waste from construction operations. Do not use the Owner's waste-collection containers!
 - 1. Arrange for regular pick-up and legal disposal of collected waste off-site.
 - 2. Comply with requirements of authorities having jurisdiction for waste disposal.
- D. Recycling of Construction Waste Materials:
Separate all construction waste into the following general categories.
Transport legally from job site and dispose to the appropriate recipient.
The contractor responsible for waste management shall retain any proceeds from the sale of recycled materials.
 - 1. Concrete and masonry debris and gravel for crushing into aggregate or pavement base.
 - 2. Scrap metal including reinforcing bars & wire; electrical wiring; flashing, ductwork, strapping and other miscellaneous sheet metal.
 - 3. Scrap lumber and plywood.
 - 4. Scrap gypsum drywall (new, unpainted).
 - 5. Cartons and other cardboard packaging.
 - 6. Commingled recyclable items such as old blueprints, office paper, aluminum cans, glass and plastic drink bottles.
 - 7. Garbage (non-recyclable items) such as batt insulation, painted drywall, small debris, food wrappers, etc.
- E. Benign debris such as excess topsoil or fill material (blended rock and dirt) may be moved offsite and disposed in areas where permission has been legally granted to do so.
- F. Signs: Install project identification and direction arrow signs, in locations approved by Owner and the local Planning Department, as needed to inform the public and to direct subcontractors, vendors and delivery persons to the Work Area.

3.3 TEMPORARY SECURITY AND PROTECTION FACILITIES

- A. Provide temporary environmental protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties, walkways, and streets, according to requirements of authorities having jurisdiction.
- C. Provide temporary enclosures as necessary for protection of construction and workers from inclement weather.
- D. Provide shoring and bracing suitable for stabilizing partial walls, cut openings and other work, for preventing its collapse from the effects of gravity, vibration, wind and other forces, and for protecting the safety of workers in the vicinity. Where necessary, engage structural or civil engineers to verify load capacities, to design shoring and bracing, and/or to inspect same.

- E. Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- F. Install and maintain temporary fire-protection facilities (such as job-site fire extinguishers.) Comply with NFPA 241.

3.4 TERMINATION AND REMOVAL

- A. Remove temporary facilities, utilities and controls no later than Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

END OF SECTION 015000

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL PROCEDURES

A. Definitions:

1. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
2. The term "Substitutions" means changes in products, materials, equipment, and/or methods of construction from those required by the Contract Documents and proposed by Contractor *after* award of the Contract.

B. Product Substitution Conditions:

Proposed substitutions will be considered when one or more of the following conditions are satisfied, as determined by the Architect. Otherwise, requests will be returned without action except to record noncompliance with these requirements.

1. The request is directly related to an "or equivalent" clause or similar language in the Contract Documents.
2. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
3. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
4. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting for offsetting additional responsibilities the Owner may be required to bear (*these may include additional compensation to the Architect/Engineer for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.*)
5. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, whereas the Contractor certifies that the substitution will overcome the incompatibility.
6. The specified product or method of construction cannot be coordinated with other materials, whereas the Contractor certifies that the proposed substitution can be coordinated.
7. The specified product or method of construction cannot provide a warranty required by the Contract Documents whereas the Contractor certifies that the proposed substitution provides the required warranty.

C. Product Substitution Procedure:

1. Submit **three (3)** copies of each request for product substitution.
2. Submit requests within **thirty (30)** days after the **Notice of Award**.
3. Do not submit unapproved substitutions on Shop Drawings or other submittals.

4. Identify product to be replaced and show compliance with requirements for substitutions.
5. Provide product data including drawings, product descriptions, fabrication and installation procedures.
6. Provide samples where applicable or requested.
7. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified.
8. Provide coordination information, including a list of changes needed to other parts of the Work required to accommodate proposed substitution, and any proposed changes in the Contract Time should the substitution be accepted.
9. Provide cost information, including a proposal of the net change (increase or decrease) in the Contract Sum should the substitution be accepted.
10. Provide Certification by the Contractor that:
 - the Contractor has personally investigated the proposed substitute product and determined that the substitution proposed is equivalent to or better in every significant respect to that required by the Contract Documents, and that it will perform appropriately in the application indicated;
 - the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
 - the Contractor waives all rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform as well as the original item specified.
11. The burden of proof for the equivalency of the proposed substitution shall rest solely on the Contractor. The Architect shall not be required to perform additional research, at the expense of the Owner, in order to evaluate a proposed substitution.
12. Architect will review the proposed substitution and supporting documentation, and will notify Contractor of its acceptance or rejection in writing or by signed approval stamp.

D. Comparable Product Request Procedure:

1. Submit **three (3)** copies of each request for comparable product.
2. Do not submit unapproved products on Shop Drawings or other submittals.
3. Identify product to be replaced and show compliance with requirements for comparable product requests. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified.
4. The burden of proof for the equivalency of the proposed substitution shall rest solely on the Contractor. The Architect shall not be required to perform additional research, at the expense of the Owner, in order to evaluate a proposed substitution.

5. Architect will review the proposal for the comparable product and will notify Contractor of its acceptance or rejection in writing or by signed approval stamp.
- E. Product Warranties:
Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under other requirements of the Contract Documents.

PART 2 - PRODUCT SELECTION

- A. Provide products that comply with the Contract Documents, are undamaged, and are new at the time of installation, with the exception of designated items to be salvaged and reused (for example, lay-in fluorescent light fixtures in the original meeting room).
1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
 2. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- B. Product Selection Procedures:
1. Where Specifications name a single product or manufacturer, this item shall be construed as having the required "salient characteristics" that comply with requirements.
 2. Where Specifications include a list with multiple names of products or manufacturers, provide one of the items indicated that complies with requirements.
 3. Where Specifications include a list of names of products or manufacturers, accompanied by the term "available products" or "available manufacturers," provide one of the named items that complies with requirements. Comply with provisions for "comparable product requests" for consideration of an unnamed product.
 4. Where Specifications name a product as the "basis-of-design" and include a list of manufacturers, provide the named product. Comply with provisions for "comparable product requests" for consideration of an unnamed product by the other named manufacturers.
- C. Use of Standard Product Colors, Patterns, and Textures: Unless otherwise indicated, Architect will select from manufacturer's full range of standard finish options.

PART 3 - PRODUCT HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, theft and/or loss. Comply with manufacturer's written instructions.
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction areas.
 2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
4. Store materials in a manner that will not endanger Project structure.
5. Store products that are subject to damage by the elements, under cover in a weather-tight enclosure above ground, with ventilation adequate to prevent trapped condensation.
6. Condition products & materials in accordance with industry standards and/or manufacturer's instruction, by moving them into a tempered work area sufficiently in advance of installation for the products & materials to get to the manufacturer's specified ambient temperature and humidity.

END OF SECTION 01 60 00

SECTION 01 70 00 - EXECUTION OF THE WORK & CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 CLOSEOUT SUBMITTALS

- A. Additional Closeout Document submittals, such as the Final Payment Application and Releases of Liens, may be found in other Sections of this Project Manual.
 - 1. Final Application for Payment.
 - 2. Completed Punch List.
 - 3. Contractor's Affidavit of Payment of Debts and Claims (on a form equivalent to AIA Document G706).
 - 4. Contractor's Affidavit of Release of Liens (on a form equivalent to AIA Document G706A).
 - 5. Consent of Surety to Final Payment (on a form equivalent to AIA Document G707).
 - 6. Final Sales & Use Tax Report.
- B. Record Drawings: Maintain a set of prints of the Contract Drawings in the job site office as Record Drawings. Mark to show actual conditions, where installation varies from that shown originally.
 - 1. Identify and date each individual sheet as a Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
- C. Operation and Maintenance Data: Organize data into three-ring binders with identification on front and spine of each binder, and pockets or envelopes for folded drawings. Submit **two (2) copies** of each manual. Include the following:
 - 1. Manufacturer's operation and maintenance documentation.
 - 2. Maintenance and service schedules and service contracts (if any).
 - 3. Complete color schedule with manufacturer's model number, color number and name for all finishes, including paint mix formulas.
 - 4. Emergency instructions.
 - 5. Spare parts list.
 - 6. Wiring diagrams.
 - 7. Copies of warranties.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION OF THE WORK

3.1 EXAMINATION AND PREPARATION

- A. Examine substrates and conditions for compliance with manufacturer's written requirements including, but not limited to, surfaces that are sound, level, plumb, smooth, clean, and free of deleterious substances; substrates within installation tolerances; and application conditions within environmental limits such as temperature and humidity.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to property survey and existing benchmarks.

- D. Take field measurements as required to fit the Work properly. Where fabricated products are to be fitted to other construction, verify dimensions by field measurement before fabrication and, when possible, allow for fitting and trimming during installation.

3.2 CUTTING AND PATCHING

- A. Provide adequate shoring & bracing of building elements prior to beginning cutting activity.
- B. Do not cut structural members or operational elements without prior approval of Architect / Engineer.
- C. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

3.3 INSTALLATION

- A. Comply with manufacturer's written instructions for installation.
- B. Locate accurately, coordinating installation and aligning with other portions of the Work.
- C. Anchor each product securely with compatible adhesives and/or fasteners.
- D. Clean exposed surfaces and protect completed work from damage.

3.4 FINAL CLEANING

- A. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:
 - 1. Remove manufacturer's labels (such as paper labels) that are not intended to be permanent. Permanent labels include (but are not limited to) mechanically attached, embossed or engraved metal tags that indicate fire ratings, code compliance, voltage/ampereage, horsepower, rpm, volume, lamp brightness, maximum wattage, etc.
 - 2. Clean transparent materials, including mirrors. Remove excess glazing compounds. Replace chipped or broken glass.
 - 3. Clean finished surfaces to a dust-free condition, free of stains, films, and foreign substances.
 - 4. Sweep concrete floors broom clean.
 - 5. Vacuum carpeted surfaces.
 - 6. Clean, strip and wax resilient flooring.
 - 7. Wipe surfaces of mechanical and electrical equipment. Remove excess lubricant.
 - 8. Clean plumbing fixtures.
 - 9. Clean light fixtures, lamps, globes, and reflectors.
 - 10. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas. Remove new stains, spills, and foreign deposits from existing and new masonry and pavement. Power wash without etching surfaces due to excessive water pressure.
 - 11. Rake grounds to a smooth, even-textured surface. Restore to original condition (seed/straw/fertilizer or mulch).

3.5 CLOSEOUT PROCEDURES

- A. At Substantial Completion, before requesting inspection, complete the following:

1. Prepare a written list of items to be completed and corrected (Punch List) with the value of items on the list. Also attach reasons why the Work is not complete.
 2. Advise Owner of any pending insurance changeover requirements.
 3. Submit specific warranties, maintenance service agreements, and similar documents.
 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 5. Submit Record Drawings and Specifications, operation & maintenance manuals and similar final record information.
 6. Deliver tools, spare parts, extra materials / maintenance supplies, and similar items.
 7. Make final changeover of permanent locks and deliver keys to Owner.
 8. Complete startup testing & balancing of systems.
 9. Remove temporary facilities and controls.
 10. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 11. Complete final cleaning requirements.
 12. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Request a walk-through inspection with Contractor, Owner, Architect & Engineer for Substantial Completion. On receipt of request, Architect will either proceed with inspection or advise Contractor of unfulfilled requirements.
- C. Architect will prepare the Certificate of Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.
- D. Request re-inspection for Final Completion, once the following are complete:
1. Submit a copy of the completed Punch List and the Substantial Completion inspection list, with notations that each item has been completed or otherwise resolved for acceptance.
 2. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- E. After the re-inspection, the Architect will prepare the final Certificate for Payment and the Certificate of Completion, or will again advise Contractor of any outstanding items that must be completed or corrected before certificates will be issued.

3.6 DEMONSTRATION AND TRAINING

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system. Include a detailed review of the following:
1. Include instruction for basis of system design and operational requirements, review of documentation, emergency procedures, operations, adjustments, troubleshooting, maintenance, and repairs.

END OF SECTION 01 70 00

SECTION 02 36 00 - TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes requirements & procedures for the application of soil treatment for termite control.

1.2 DEFINITIONS and ABBREVIATIONS

- A. EPA: Environmental Protection Agency.
- B. PCO: Pest Control Operator.

1.3 SUBMITTALS

- A. Product Data: Treatments and application instructions, including EPA-registered Label.
- B. Product Certificates: Signed by manufacturers of termite control products certifying that treatments furnished comply with requirements.
- C. Qualification Data: For firms and persons to demonstrate their capabilities and experience. Include copies of applicator's licenses, lists of at least 5 similar completed projects with project names and addresses, names and addresses of architects and owners, and other information useful in establishing qualifications or performance.
- D. Soil Treatment Application Report: After application of termiticide is completed, submit report for Owner's record information, including the following as applicable:
 - 1. Date and time of application.
 - 2. Moisture content of soil before application.
 - 3. Brand name and manufacturer of termiticide.
 - 4. Quantity of undiluted termiticide used.
 - 5. Dilutions, methods, volumes, and rates of application used.
 - 6. Areas of application.
 - 7. Water source for application.
- E. Warranties: See Section 1.6 below.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: A PCO who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment in jurisdiction where Project is located and who is experienced and has completed termite control treatment similar to that indicated for this Project and whose work has a record of successful in-service performance.
- B. Regulatory Requirements: Formulate and apply termiticides, and label with a Federal registration number, to comply with EPA regulations and authorities having jurisdiction.

1.5 COORDINATION

- A. Coordinate soil treatment application with excavating, filling, and grading and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs, before construction.

1.6 WARRANTY

- A. Written warranty, signed by applicator and Contractor certifying that termite control work, consisting of applied soil termiticide treatment, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.
- B. Warranty Period: **Five (5) years** from date of Substantial Completion.

1.7 MAINTENANCE SERVICE

- A. Continuing Service: Provide a proposal for continuing service, including monitoring, inspection, and retreatment for occurrences of termite activity, from applicator to Owner, in the form of a standard yearly (or other period) continuing service agreement, starting on the date of Substantial Completion. State services, obligations, conditions, and terms for agreement period and for future renewal options.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT SOLUTION

- A. Termiticide: Provide an EPA-registered termiticide complying with requirements of authorities having jurisdiction, in a soluble or emulsible, concentrated formulation that dilutes with water or foaming agent, and formulated to prevent termite infestation. Use only soil treatment solutions that are not harmful to plants. Provide quantity required for application at the label volume and rate for the maximum termiticide concentration allowed for each specific use, according to the product's EPA-Registered Label.
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. AgrEvo Environmental Health, Inc.; a Company of Hoechst and Schering, Berlin.
 - 2. American Cyanamid Co.; Agricultural Products Group; Specialty Products Department.
 - 3. Bayer Corp.; Garden & Professional Care.
 - 4. DowElanco.
 - 5. FMC Corp.; Pest Control Specialties.
 - 6. Zeneca Professional Products.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of the soil, interfaces with earthwork, slab and foundation work, landscaping, and other conditions affecting performance of termite control.
- B. Proceed with application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with manufacturer's written instructions for preparing substrate.
- B. Soil Treatment Preparation:

1. Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated.
 2. Remove all extraneous sources of wood cellulose and other edible materials such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil and around foundations.
 3. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and footings.
 4. Termiticides may be applied before placing compacted fill under slabs if recommended by termiticide manufacturer.
- C. Fit filling hose connected to water source at the site with a backflow preventer, complying with requirements of authorities having jurisdiction.

3.3 APPLICATION OF SOIL TREATMENT

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label instructions for products.
- B. Application: Mix soil treatment termiticide solution to a uniform consistency. Provide quantity required for application at the label volume and rate for the maximum specified concentration of termiticide, according to manufacturer's EPA-Registered Label, to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction. Distribute the treatment evenly.
1. Slabs-on-Grade: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
 2. Foundations: Adjacent soil including soil along entire inside perimeter of foundation walls, along both sides of interior partition wall foundations, around plumbing pipes and electric conduit slab penetrations, and around interior column footers, piers, and chimney bases; and along entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.
 3. Masonry: Treat voids.
 4. Penetrations: At expansion joints, service entrances, control joints, and other areas where slabs or walls will be penetrated.
- C. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.
- D. Protect termiticide solution, dispersed in treated soils and fills, from being diluted until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.
- E. Post warning signs in areas of application.
- F. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

END OF SECTION 02 36 00

02 41 00 SELECTIVE DEMOLITION

PART 1 - GENERAL (Not Applicable)

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

A. DEMOLITION PROCEDURES:

1. Use experienced personnel, with tools and methods appropriate for each demolition task.
2. Protect all portions of the existing facility (including site features and landscaping) that are not scheduled for removal, from damage caused by demolition & construction activities.
3. Provide temporary shoring and bracing as necessary to maintain the structural integrity of the existing facility. Furnish professionally engineered shoring & bracing if required.
4. Where portions of the exterior envelope are removed, protect the building from break-ins, weather intrusion and other damage by use of temporary protective measures.
At Contractor's option, change the work sequence to shorten the time of exposure.
5. Provide appropriate safety precautions. Restrict work area access to qualified personnel. Provide appropriate warning signs, caution tape, barricades and other protective measures as work progresses.
6. Utilize the lowest-impact technique for removal in order to minimize vibration, noise and damage to adjacent materials (example: saw cutting slab instead of jack hammer).
7. Carefully remove and set aside those items that are designated for salvage and reuse. Where items are to be delivered to Owner, store them in a protected area to minimize incidental damage until Owner takes possession.
8. Remove all items, equipment, materials, finishes and assemblies that are indicated on the drawings for demolition. Whether or not indicated on the drawings, demolish other items where it can be reasonably inferred they should be removed in order to accomplish the work.
9. Refer to Section 01 50 00, for requirements for management, separation, recycling and disposal of Construction Debris and Waste Materials.
10. At the conclusion of demolition activities, police the entire work area with a "magnetic broom" to collect overlooked metal parts & fasteners that could become hazards.
11. Contractor's base bid shall allow for removal of UP TO FIFTEEN PERCENT (15%) ADDITIONAL MATERIAL in order to extend all demolition work to a natural terminus (for example, to the next stud in a wall or the next masonry joint) or to a natural transition (such as a control joint, a nearby meeting wall or an existing opening).

END OF SECTION 02 41 00

SECTION 033000 - CAST-IN-PLACE CONCRETE**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: Forward copies of Load Tickets from concrete delivery trucks.
- B. Ready-Mixed Concrete Producer Qualifications: ASTM C 94/C 94M.
- C. Comply with the following standards & guidelines:
ACI 301, "Specification for Structural Concrete";
ACI 117, "Specifications for Tolerances for Concrete Construction and Materials";
and CRSI's "Manual of Standard Practice."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain Steel Wire: ASTM A 82, as drawn.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- D. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- E. Portland Cement: ASTM C 150, Type I or II.
- F. Fly Ash: ASTM C 618, Type C or F (submit for Structural Engineer's approval before using).
- G. Aggregates: ASTM C 33, uniformly graded.
- H. Synthetic Fiber: NONE PERMITTED.
- I. Air-Entraining Admixture: ASTM C 260.
- J. Chemical Admixtures: DO NOT USE use calcium chloride or admixtures containing calcium chloride.
- K. Vapor Retarder: Clear 8-mil- (0.25-mm-) thick polyethylene sheet.
- L. Joint-Filler Strips: DO NOT USE asphalt-saturated cellulosic fiber.
Preferred Joint-Filler Strips: Foam plastic continuous joint filler strips in 4" widths.
- M. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- N. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
DO NOT USE curing and/or sealing compounds which will interfere with adhesion of finish flooring materials.

2.2 MIXES

- A. Comply with ACI 301 requirements for concrete mixtures.
- B. Normal-Weight Concrete: Prepare design mixes, proportioned according to ACI 301, as follows:

1. Minimum Compressive Strength
Interior Slabs, Footings & Grout: 3,000 psi at 28 days
(unless noted otherwise on Structural Drawings).
Exterior Walkways & Aprons: 4,000 psi at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.50.
 3. Slump Limit: 5 inches for concrete with no high-range water-reducing admixture or plasticizing admixtures.
 4. Air Content: Maintain within range permitted by ACI 301.
Do not allow air content of floor slabs that receive troweled finishes to exceed 3 percent.
- C. Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M & ASTM C 1116.
1. When air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 CONCRETING

- A. Construct formwork according to ACI 301 and maintain tolerances and surface irregularities within ACI 347R limits of Class A, 1/8 inch for concrete exposed to view and Class C, 1/2 inch for other concrete surfaces.
- B. Place vapor retarder on prepared subgrade, with joints lapped 6 inches and sealed.
- C. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- D. Install construction, isolation, and contraction joints where indicated. Mechanical, full-depth control joints are preferred, using continuous metal keyway. Expansion joints where slab meets wall should be full-depth joint-filler strips.
- E. Place concrete in a continuous operation and consolidate using mechanical vibrating equipment.
- F. Protect concrete from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing.
- G. Formed Surface Finish: Smooth-formed finish for concrete exposed to view, coated, or covered by waterproofing or other direct-applied material; rough-formed finish elsewhere.
- H. Slab Finishes: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:
 1. Power-troweled finish for floor surfaces and floors that will receive thin finish coatings such as vinyl tile, carpeting, epoxy, or other floor coverings.
 2. Nonslip broom finish to interior slabs that will receive mud-set ceramic tile finishes, and for exterior concrete walkways, aprons, steps or ramps.
- I. Begin curing concrete slabs immediately after finishing. Keep concrete continuously moist for at least seven days, or in hot weather apply membrane-forming curing compound to newly finished concrete.

- J. Sawn control joints should be cut as soon as the concrete has set up hard enough to cut cleanly, to prevent the slab developing unintentional, random shrinkage cracks as it cures.
- K. Coordinate with testing agency to perform field tests, prepare samples and submit test reports. Prepare (3) test cylinders for 8 yards of concrete or fraction thereof (minimum: any size load delivered in one truck).
Regardless of minimum testing rate listed above, prepare separate test cylinders if concrete pour occurs on separate days.
- L. Protect completed concrete work from damage. Repair surface appearance defects in formed concrete and slabs to match the surrounding color and texture. Replace damaged work that cannot be repaired to the satisfaction of the Owner and Architect.

END OF SECTION 033000

SECTION 03 54 00 - GYPSUM CONCRETE UNDERLAYMENT**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Scope of work: Use this product in the renovated Men's Shower / Locker Room for bringing the sloped or recessed existing slab to a level condition for installation of new finish flooring.
- B. Submittals: Product data for confirmation.
- C. Quality Control:
 - 1. Only use one of the three named products named below. No product substitutions.
 - 2. Use only experienced installers.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pre-packaged, dry, ready-mix, self-leveling underlayment: Any of the following three products (or demonstrably equivalent products by others) are acceptable for use, subject to manufacturer's installation instructions and recommendations for surface preparation:
 - 1. Ardex K-15 Premium Self-Leveling Underlayment.
 - 2. Hacker Firm-Fill 3310.
 - 3. Maxxon Commercial Topping.

PART 3 - EXECUTION

3.1 SELF-LEVELING GYPSUM CONCRETE UNDERLAYMENT

- A. Comply with manufacturer's express recommendations for product handling & storage, substrate preparation and/or priming, job site conditions, product mixing, and installation.
- B. Expansion joints in underlying concrete must be transferred through new floor topping by setting mechanical joints or by re-sawing of the cured floor topping (see F below).
- C. Place self-leveling underlayment in a continuous operation with no cold joints.
- D. Protect finished underlayment from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing.
- E. Surface Finish: Product forms its own smooth finish. If cured material does not show a smooth finish, it is evidence of improper installation or job conditions.
- F. Sawn control joints should be cut as soon as the concrete has set up hard enough to cut cleanly, to prevent the slab developing unintentional, random shrinkage cracks as it cures.
- G. Protect completed concrete work from damage. Repair surface appearance defects in formed concrete and slabs to match the surrounding color and texture. Replace damaged work that cannot be repaired to the satisfaction of the Owner and Architect.

END OF SECTION 035400

SECTION 042000 - UNIT MASONRY**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Allowances: None.
- B. Related Sections: 055000 "Metal Fabrications" for furnishing miscellaneous steel lintels for unit masonry, where required.
- C. Submittals:
 - 1. Samples for face brick.
 - 2. Material Certificates: For each type of product indicated. Include statements of material properties indicating compliance with requirements.
- D. Sample Panels: None required.

PART 2 - PRODUCTS

2.1 UNIT MASONRY

- A. Comply with ACI 530.1/ASCE 6/TMS 602.

2.2 MASONRY UNITS

- A. Face Brick: ASTM C 652, Class H40V, Grade MW or SW, Type FBX or HBX.
 - 1. Products: Match texture and finish of existing building face brick.
 - a. Submit product samples from manufacturers making products that appear to meet the project requirements.
 - 2. Color: Because it will be impossible to match the exact color of the existing face brick, the Architect will be looking for a slightly darker, complementary color.
 - 3. Size: Modular [3-5/8 inches (92 mm) wide by 2-1/4 inches (57 mm) high by 7-5/8 inches (194 mm) long].
 - 4. Provide matching solid brick with exposed surfaces finished for ends of sills and caps.
 - 5. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

2.3 MORTAR AND GROUT

- A. Mortar: ASTM C 270, proportion specification.
 - 1. Use portland cement-lime or masonry cement mortar.

2. Do not use calcium chloride in mortar.
3. For masonry below grade or in contact with earth, use Type M.
4. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions, and for other applications where another type is not indicated, use Type S.

2.4 REINFORCEMENT, TIES & ANCHORS

- A. Veneer Anchors: ASTM A 951, hot-dip galvanized steel, two-piece adjustable masonry veneer anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to studs, and acceptable to authorities having jurisdiction.
1. Coating: Hot-dip galvanized.
 2. Wire Size for Veneer Ties: 0.148-inch (3.77-mm) minimum diameter.
 3. Products:
 - a. Dayton Superior Corporation, Dur-O-Wal Division; D/A 213 or D/A 210 with D/A 700-708.
 - b. Heckmann Building Products Inc.; 315-D with 316 or Pos-I-Tie.
 - c. Hohmann & Barnard, Inc.; DW-10 DW-10HS or DW-10-X.
 - d. Wire-Bond; 1004, Type III, RJ-711 or SureTie.

2.5 EMBEDDED FLASHING MATERIALS

- A. Sheet Metal Flashing: Stainless steel, 0.0156 inch (0.4 mm) minimum thickness.
- B. Rubberized Asphalt Sheet Flashing: Pliable, adhesive rubberized-asphalt compound, bonded to a polyethylene film to produce an overall thickness of 0.040 inch (1.02 mm). Use only where flashing is fully concealed.
1. Products:
 - a. Advanced Building Products Inc.; Peel-N-Seal.
 - b. Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
 - c. Dayton Superior Corporation, Dur-O-Wal Division; Dur-O-Barrier Thru-Wall Flashing.
 - d. Fiberweb, Clark Hammerbeam Corp.; Aquaflash 500.
 - e. Grace Construction Products, W. R. Grace & Co. - Conn.; Perm-A-Barrier Wall Flashing.
 - f. Heckmann Building Products Inc.; No. 82 Rubberized-Asphalt Thru-Wall Flashing.
 - g. Hohmann & Barnard, Inc.; Textroflash.
 - h. W. R. Meadows, Inc.; Air-Shield Thru-Wall Flashing.
 - i. Polyguard Products, Inc.; Polyguard 400.
 - j. Sandell Manufacturing Co., Inc.; Sando-Seal.
 - k. Williams Products, Inc.; Everlastic MF-40.
- C. Elastomeric Thermoplastic Flashing: Composite flashing product consisting of a polyester-reinforced ethylene interpolymer alloy, 0.025 inch (0.64 mm) thick, with a 0.015-inch- (0.38-mm-) thick coating of adhesive. Use only where flashing is fully concealed.

1. Products:
 - a. DuPont; Thru-Wall Flashing.
 - b. Hohmann & Barnard, Inc.; Flex-Flash.
 - c. Hyload, Inc.; Hyload Cloaked Flashing System.
 - d. Mortar Net USA, Ltd.; Total Flash.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

- A. Sand: Clean, washed, finely-screened, produced and intended for use in mortar.
- B. Compressible Filler: Premolded strips complying with ASTM D 1056, Grade 2A1.
- C. Preformed Control-Joint Gaskets: Designed to fit standard sash block and to maintain lateral stability in masonry wall; made from styrene-butadiene rubber or PVC.
- D. Weep Holes: Cellular-plastic extrusion, full height and width of head joint.
- E. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV or X.
- F. Proprietary Acidic Masonry Cleaner: Product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units.
 1. Manufacturers:
 - a. Diedrich Technologies, Inc.
 - b. EaCo Chem, Inc.
 - c. ProSoCo, Inc.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Use only experienced masons and helpers, to ensure quality workmanship and the proper mixing of mortar.
- B. Cut masonry units with saw. Install with cut surfaces and, where possible, cut edges concealed.
- C. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.
- D. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- E. Stopping and Resuming Work: Rack back units; do not tooth.
- F. Tool exposed joints slightly concave when thumbprint hard unless otherwise indicated.
- G. Keep cavities clean of mortar droppings and other materials during construction.

3.2 FLASHING AND WEEP HOLES

- A. Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.
- B. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing before covering with mortar.
 - 1. Extend flashing 4 inches (100 mm) into masonry at each end and turn up 2 inches (50 mm) at back to form a pan.
- C. Weep material used in head joints shall be flush with outside face of wall after mortar has set.

3.3 CLEANING

- A. Clean masonry as work progresses. Remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly cured, clean exposed masonry.
 - 1. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
 - 2. Wet wall surfaces with water before applying acidic cleaner, then remove cleaner promptly by rinsing thoroughly with clear water.
 - 3. Use only wood tools and natural bristle brushes for cleaning. Do not use metal tools.

END OF SECTION 042000

SECTION 06 10 00 - ROUGH CARPENTRY**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: None.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: Provide dressed and lumber, S4S, marked with grade stamp of inspection agency.
- B. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

2.2 TREATED MATERIALS

- A. Preservative-Treated Materials: AWPAC2, except that lumber not in ground contact and not exposed to the weather may be treated according to AWPAC31 with inorganic boron (SBX).
 - 1. Use treatment containing no arsenic or chromium.
 - 2. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
 - 3. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- B. Provide preservative-treated materials for the following conditions:
 - 1. Concealed wood members in connection with roofing, flashing, curbs, and vents.
 - 2. Concealed wood members in contact with masonry or concrete, particularly wood used as nailers and grounds for other attachment.

2.3 LUMBER

- A. Miscellaneous Dimension Lumber:
 - 1. Dimension Lumber shall be used primarily for concealed nailers, blocking, and similar members.
 - 2. Maximum Moisture Content: **15 percent**.
 - 3. Grade & Species: Stud or No. 2 grade Southern pine: SPIB; Douglas fir-larch: WCLIB or WWPA; Douglas fir (south): WWPA; Hem-fir: WCLIB or WWPA; or Spruce-pine-fir (south): NeLMA, WCLIB, or WWPA.
 - 4. Exposed Framing: None.

2.4 PLYWOOD

- A. Protective layer / traffic topping above the fire-rated corridor ceiling: Exposure 1, C-D Plugged, fire-retardant treated, not less than 1/2 inch (12.7 mm) thick.
- B. Telephone and Electrical Equipment Backing Panels: Plywood, Exposure 1, C-D Plugged, fire-retardant treated, not less than 1/2 inch (12.7 mm) thick.

2.5 MISCELLANEOUS PRODUCTS

- A. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with **double hot-dip zinc coating** complying with ASTM A 153/A 153M or of **Type 304 stainless steel**.
 - 1. Power-Driven Fasteners: CABO NER-272.
 - 2. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- B. Metal Framing Anchors: Structural capacity, type, and size indicated.
 - 1. Use anchors made from hot-dip galvanized steel complying with ASTM A 653/A 653M, G60 (Z180) coating designation for interior locations where stainless steel is not indicated.
 - 2. Use anchors made from stainless steel complying with ASTM A 666, Type 304 for exterior locations and where indicated.
- C. Sill-Sealer: closed-cell neoprene foam, 1/4 inch thick.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Securely attach rough carpentry to substrates, complying with the following:
 - 1. CABO NER-272 for power-driven fasteners.
 - 2. Published requirements of metal framing anchor manufacturer.
 - 3. Section 2304 of 2009 IBC / 2012 NC State Building Code.

END OF SECTION 06 10 00

SECTION 06 20 00 - FINISH CARPENTRY**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: None.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.
- B. Softwood Plywood: DOC PS 1.
- C. Hardwood Plywood: HPVA HP-1.
- D. MDF: ANSI A208.2, Grade 130, made with binder containing no urea-formaldehyde resin.

2.2 INTERIOR STANDING AND RUNNING TRIM

- A. Interior Hardwood Lumber Trim for painted finish: Finish or No. 1 grade kiln-dried Poplar.
 - 1. Maximum Moisture Content: 15 percent.
- B. Shapes: Use S4S material in common sizes where indicated for new work on Architectural Details. All edges exposed to human contact shall be eased with a 1/8" radius.

2.3 MISCELLANEOUS MATERIALS

- A. Fasteners @ wood nailers: Small-head finishing nails of length sufficient to penetrate the underlying wood nailer to a depth of 1".
- B. Fasteners @ metal studs: Provide miscellaneous wood blocking / backing at all locations where wood trim is to be attached over metal stud framing. Then use fasteners indicated in "A" above.
- C. Fasteners at masonry units: Provide 1/4" Tapcon screws or equivalent, of length sufficient to accommodate thickness of trim plus penetrate masonry to a depth of 1". Pre-drill masonry guide holes with proprietary bit to allow for proper bite of screw threads. Pre-drill trim to accommodate screw shaft diameter and countersink for the larger screw head.
- D. Dowels / Plugs: Provide matching hardwood or softwood dowels or plugs for filling countersunk screw holes in standing and running trim that is attached to masonry walls.
- E. Miscellaneous Blocking: Provide No. 2 or No. 3 grade softwood lumber scrap, cut and fitted into metal stud framing as necessary for support and attachment of trim.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Condition all finish carpentry materials by storing in the work area for 24 hours before installing.

- B. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Scribe and cut to fit adjoining work. Install with uniform tight joints.
- C. Sand, refinish and seal all cuts.
- D. Install standing and running trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Where running trim must be pieced, use scarf joints, not butt joints. Stagger joints in adjacent and related trim. Cope at returns and miter at corners.
- E. For painted trim, countersink all nail heads, fill with wood putty, and sand filler flush. Sand all wood plugs flush.
- F. For transparent finishes, apply sanding sealer or first coat prior to countersinking & filling nail heads, because otherwise the filler will seep into the wood grain and block out future stains!

END OF SECTION 06 20 00

SECTION 06 40 23 - INTERIOR ARCHITECTURAL WOODWORK**PART 1 - GENERAL****1.1 SECTION REQUIREMENTS**

- A. Scope of Work: Provide Front Desk Counter, Break Room Counter, Kitchen Cabinets and Countertops, Ventilation Duct Skirting, and related items as indicated on Drawings.
- B. Submittals: Shop Drawings and Samples showing the full range of colors, textures, and patterns available for each type of finish.
- C. Quality Standard: Architectural Woodwork Institute's "Architectural Woodwork Quality Standards".
- D. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is completed, and HVAC system is operating.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Hardboard: AHA A135.4.
- B. Medium-Density Fiberboard: ANSI A208.2, Grade 130 made with binder containing no urea formaldehyde.
- C. Particleboard: ANSI A208.1, Grade M-2.
- D. Softwood Plywood: DOC PS 1; Hardwood Plywood: HPVA HP-1, made with adhesive containing no urea formaldehyde.
- E. Thermoset Decorative Panels: Comply with LMA SAT - 1.
- F. High-Pressure Decorative Laminate: NEMA LD 3.
 - 1. Manufacturers: Wilsonart, Formica, Nevamar, Pionite or equivalent product.
 - 2. Colors: To be selected from manufacturer's standard range.

2.2 CABINET HARDWARE AND ACCESSORY MATERIALS

- A. Butt Hinges: 2-3/4-inch (70-mm), 5-knuckle steel hinges made from 0.095-inch- (2.4-mm-) thick metal, and as follows:
 - 1. Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521.
- B. Wire Pulls: Back mounted, solid metal, 4 inches (100 mm) long, 5/16 inch (8 mm) in diameter, and 2 to 2-1/2 inches (63.5 mm) deep.
- C. Catches: Magnetic catches, BHMA A156.9, B03141.
- D. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.
- E. Countertop Support Brackets: Provide products by one of the following:
 - "Work Station Brackets" by A & M Hardware, Inc. / 400 W. Gramby Street / Manheim, PA

17545 / 1-888-647-0200 / www.aandmhardware.com

“Counter Support Brackets” by Rakks / Rangine Corporation / 330 Reservoir Street / Needham, MA 02494 / 1-800-826-6006 / www.rakks.com

- F. Drawer Slides: BHMA A156.9, B05091.
 - 1. Box Drawer Slides: Grade 1.
- G. Exposed Hardware Finishes: Comply with BHMA A156.18 for BHMA code number indicated.
 - 1. Finish: Satin Stainless Steel: BHMA 630.
- H. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to 15 percent moisture content.

2.3 INTERIOR WOODWORK

- A. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- B. Plastic-Laminate Cabinets: Custom grade.
 - 1. AWI Type of Cabinet Construction: Reveal overlay.
 - 2. WIC Construction Style: Style A, Frameless.
 - 3. WIC Door and Drawer Front Style: Reveal overlay.
 - 4. Laminate Cladding: Horizontal surfaces other than tops, HGS;
Vertical surfaces, HGS or VGS;
Semiexposed surfaces, VGS or CLS.
 - 5. Edges: PVC edge banding, 0.12 inch (3 mm) thick;
 - 6. Drawer Sides and Backs: Thermoset decorative panels.
 - 7. Drawer Bottoms: Thermoset decorative panels.
- C. Plastic-Laminate Countertops: Custom grade.
 - 1. Laminate Grade: HGS for flat countertops.
 - 2. Edge Treatment: Plastic-Laminate, Grade HGS.
- D. Transparent Finish: WI finish System 5, catalyzed polyurethane.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Immediately set aside any Architectural Woodwork products that are broken or show any other damage, including but not limited to stains, chips, scratches, missing parts, bent hinges, etc.
- B. Before installation, condition Architectural Woodwork to average prevailing humidity conditions in installation areas for at least 24 hours.

- C. Install Architectural Woodwork to comply with referenced quality standard for grade specified.
- D. Install Architectural Woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.
- E. Scribe and cut Architectural Woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- F. Anchor Architectural Woodwork to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed nailing, countersunk and filled flush with woodwork.
- G. Standing and Running Trim: Provide color matched trim, caps, spacers, corner molding, and other items necessary to achieve a complete and finished appearance.
 - 1. Install trim with the minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 36 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.
- H. Cabinets: Fasten wall cabinets through back, near top and bottom, at ends and 16 inches o.c. with No. 10 wafer-head screws sized for 1-inch (25-mm) minimum penetration into wood framing, blocking, or hanging strips.
- I. Countertops: Scribe countertops neatly to wall. Anchor countertops securely to base units. Seal space between backsplash and wall.
- J. Promptly repair any damage to wall, floors or to Architectural Woodwork components resulting from installation work.
- K. Protect Architectural Woodwork from potential damage during the remainder of the construction period, until final cleaning.

END OF SECTION 06 40 23

SECTION 066400 - PLASTIC PANELING (FRP)**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Scope of Work: FRP panels to line and protect all 4 interior walls of (2) holding cells (full height from finished floor to finished ceiling) and the room-side faces of flush wood doors at these rooms.
- B. Submittals:
 - 1. Product data.
 - 2. Samples for color & pattern selection.

PART 2 - PRODUCTS

2.1 PLASTIC SHEET PANELING

- A. General: Gel-coat-finished, glass-fiber-reinforced plastic panels complying with ASTM D 5319.
 - 1. Manufacturers of products meeting project requirements include but are not limited to:
 - a. Kemlite Company Inc.
 - b. Marlite.
 - c. Nudo Products, Inc.
 - d. Crane Composites.
 - e. Glasteel (Glasliner)
 - 2. Nominal Thickness: Premium (not less than 0.12 inch).
 - 3. Surface Finish: Molded texture (linen).
- B. Trim Accessories: Manufacturer's standard one-piece vinyl extrusions designed to retain and cover edges of panels. Provide division bars, inside corners, outside corners,] and caps as needed to conceal edges.
- C. Adhesive: Use low-VOC products, type and brand as recommended by plastic paneling manufacturer for various substrates (painted drywall, wood veneer).
- D. Sealant: Latex sealant recommended by plastic paneling manufacturer and complying with requirements in Section 079200 "Joint Sealants."

2.2 PLYWOOD SUBSTRATE

- A. General: Gel-coat-finished, glass-fiber-reinforced plastic panels complying with ASTM D 5319.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Prior to commencing the installation work, carefully examine project conditions (including temperature and humidity) and do not proceed until unsuitable conditions have been remedied.
- B. Lay out paneling before installing. Locate panel joints so that trimmed panels at corners are not less than 12 inches (300 mm) wide.
 - 1. Locate trim accessories to allow clearance at panel edges according to manufacturer's written instructions.
- C. Install panels in a full bed of panel adhesive, spread with a notched trowel.
- D. Use a laminate roller to remove air pockets and ensure full adhesion of the panel to the substrate.
- E. Install trim accessories with adhesive and nails or staples. Do not fasten trim through panels.
- F. Fill grooves in trim accessories with sealant before installing panels and bed inside corner trim in a bead of sealant.
- G. Scribe neatly around wall fixtures, door & window mouldings, and other items to remain, maintaining a narrow but uniform space of +/- 1/4". Fill space with sealant.
- H. Remove door knobs and other door hardware before installation. Match hole sizes for hardware (bore diameters) so that hardware trim rings will cover FRP edges when re-installed.

END OF SECTION 06 64 00

SECTION 071326 - SELF-ADHERING SHEET WATERPROOFING**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Installer Qualifications: Installers and supervisors are trained and approved by waterproofing manufacturer.

PART 2 - PRODUCTS

2.1 WATERPROOFING MATERIALS

- A. Modified Bituminous Sheet: 60-mil- (1.5-mm-) thick, self-adhering sheet consisting of 56 mils (1.4 mm) of rubberized asphalt laminated to a 4-mil- (0.10-mm-) thick, polyethylene film with release liner on adhesive side and formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.
 - 1. Products:
 - a. American Hydrotech, Inc.; VM75.
 - b. Carlisle Coatings & Waterproofing Inc.; CCW MiraDRI 860/861.
 - c. CETCO Building Materials Group, a subsidiary of AMCOL International Corp.; Envirosheet.
 - d. Grace, W. R., & Co. - Conn.; Bituthene 3000 / Low Temp or Bituthene 4000.
 - e. Henry Company; Blueskin WP 100/200.
 - f. Meadows, W. R., Inc.; SealTight Mel-Rol.
 - g. Nervastral, Inc.; BITU-MEM.
 - h. Polyguard Products, Inc.; Polyguard 650.
 - i. Protecto Wrap Company; PW 100/60.
 - j. Tamko Building Products, Inc.; TW-60.
 - k. York Manufacturing, Inc.; HydroGard.
 - B. Auxiliary Materials: Furnish auxiliary materials recommended by waterproofing manufacturer.
 - 1. Primer: Liquid waterborne or solvent-borne primer.
 - 2. Surface Conditioner: Liquid, waterborne surface conditioner.
 - C. Wall Insulation Drainage Panels: Extruded-polystyrene board insulation complying with ASTM C 578, Type IV or Type VI, fabricated with shiplap or channel edges and with one side having grooved drainage channels.
 - 1. Products:
 - a. DiversiFoam Products; CertiFoam 25 SL or CertiFoam 40 (with channel edges) Drainage Board.
 - b. Dow Chemical Company; Styrofoam Perimate.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Clean, prepare, and treat substrates. Provide clean, dust-free, and dry substrates for waterproofing application.
- B. Remove oil, form-release agents, curing compounds, and other contaminants or coatings.
- C. Remove projections and fill honeycomb, aggregate pockets, holes, and other voids.
- D. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks.
 - 1. Install sheet strips according to manufacturer's written instructions over treated construction and contraction joints and cracks exceeding a width of 1/16 inch (1.6 mm).
- E. Bridge and cover butt joints, isolation joints, expansion joints and discontinuous material joints with overlapping sheet strips. Invert and loosely lay first sheet strip over center of joint. Firmly adhere second sheet strip to first and overlap to substrate.
- F. Prepare, prime, and treat inside and outside corners according to ASTM D 6135.
- G. Prepare, treat, and seal surfaces at terminations, penetrations, drains, and protrusions according to ASTM D 6135.
- H. Install self-adhering sheet waterproofing according to manufacturer's written instructions and recommendations in ASTM D 6135.
- I. Apply primer to substrates at required rate and allow it to dry.
- J. Apply and firmly adhere sheets. Accurately align sheets and maintain uniform 2-1/2-inch- (64-mm-) minimum lap widths and end laps. Overlap and seal seams and stagger end laps.
- K. Repair tears, voids, and lapped seams not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheets extending 6 inches (150 mm) beyond repaired areas in all directions.
- L. Install insulated drainage panels over waterproofing membrane. Use adhesive or tape applied according to manufacturer's written instructions. Do not penetrate waterproofing.
 - 1. Lap edges and ends of geotextile to maintain continuity.

END OF SECTION 071326

SECTION 07 21 00 – THERMAL & ACOUSTIC INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals:
 - 1. Product Data and Material Safety Data Sheets (MSDS).
 - 2. Shop Drawings for Roof Insulation Layout.

- B. Quality Assurance - Installer Qualifications: Products listed in this Section shall be installed by a single organization with at least five (5) years experience successfully installing insulation on projects of similar type and size.
 - 1. Spray-foam insulation shall be installed only by certified trained and factory-authorized technicians, under the strictest protective requirements for installation personnel as well as persons in the general area of the Work.

PART 2 - PRODUCTS

2.1 INSULATION PRODUCTS

- A. Surface-Burning Characteristics: ASTM E 84, and as follows:
 - 1. Flame-Spread Index: 25 or less where exposed; otherwise, as indicated in Part 2 "Insulation Products" Article.
 - 2. Smoked-Developed Index: 350 or less.

- B. Water Vapor Transmittance: ASTM E 96

- C. Thermal Performance: ASTM C 518 and/or ASTM C 177 at 75 degrees F (24 degrees C) mean temperature.

- D. Closed-Cell Polyisocyanurate Foam Flat Board and Tapered Board Insulation with fiberglass facing (where needed for roof patching & repair): ASTM C1289 and FS HH-I-1972/2, in multiple layers to thicknesses indicated on drawings.
 - 1. Atlas “ACFoam-IV” or equivalent products by Dow, GAF, Firestone, or Johns-Manville.

- E. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV, with flame-spread index of 75 or less, in single thicknesses indicated on drawings.
 - 1. Dow “Styrofoam” or equivalent products by Atlas, GAF, or Owens-Corning, .

- F. Open-Cell Spray-Foam Insulation: Two-component, Water-blown Foam.
 - 1. Certainteed “Certa-Spray”, NCFI Polybutethanes “Sealite”, Johns-Manville “JMocSPF”, Nu-Wool “Nu-Seal 1.0 pcf”, or equivalent products by others.

- G. Fiberglass Blanket Insulation for Sound Attenuation: ASTM C 665, unfaced, with fibers manufactured from inorganic glass, bonded with non-water soluble and fire-retardant thermosetting, formaldehyde-free resin.

1. Owens-Corning “*Fiberglas*® Unfaced Sound Attenuation Blanket” or equivalent products by Certainteed, Johns-Manville, Knauf and others.

2.2 ACCESSORIES

- A. Adhesives for EPS Board: As recommended by manufacturer for masonry substrate that has been covered with Liquid-Applied Waterproofing Membrane (see Section 07 11 13).
- B. Fasteners for Roof Insulation & Cover Board: As recommended by manufacturer for attachment to plywood roof deck, of suitable length to affix multiple layers of substrate and achieve full penetration into deck to meet specified withdrawal force. Include plate washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Ship, handle, and store insulation materials in strict accordance with Manufacturer’s instructions.
- B. Prior to commencing the work, the Installer shall examine the project conditions and report any unsuitable conditions to Contractor. Do not move insulation materials into the work area until project conditions are suitable for installation to commence. Do not proceed with any insulation work until project conditions meet the minimum requirements established in the Manufacturer’s Installation Instructions.
- C. Install insulation in areas and in thicknesses indicated on the Drawings, or as required to produce R-values indicated. Cut and fit tightly around obstructions. Fill all voids.
- D. Except for batt & blanket insulation that is loose-laid or friction fitted in stud cavities, affix insulating materials to substrate using adhesive or mechanical anchorage to provide permanent placement and support of units.
- E. For rigid foam roof insulation, stagger the panels in successive layers at least 12” in both directions, to seal gaps and minimize telegraphing of panel joints.
- F. Completely remove all packaging, containers, and other debris associated with insulation work. Remove temporary protections such as spray barriers, masking, etc. Remove scaffolding, staging, work horses, tools and equipment associated with insulation work.
- G. Protect installed work until the insulation is covered by other work, or if left exposed, until project completion. Promptly repair or correct any damage or displacement.

END OF SECTION 072100

SECTION 072419 - EXTERIOR INSULATION & FINISH SYSTEM (EIFS) (WATER-DRAINAGE TYPE)

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Work Scope: EIFS used to mimic precast concrete wall panels at locations indicated on Construction Drawings where windows are being removed and wall openings filled.
- B. Submittals: Product Data and Samples of finishes & colors.
- C. Installer Qualifications: Certified in writing by system manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. Acrocrete, Inc.
 - 2. Corev America, Inc.
 - 3. Dryvit Systems, Inc.
 - 4. El Rey Stucco Company, Inc.; a brand of ParexLahabra, Inc.
 - 5. Master Wall, Inc.
 - 6. Omega Products International, Inc.
 - 7. Parex, Inc.; a brand of ParexLahabra, Inc.
 - 8. SonoWall; Degussa Wall Systems, Inc.
 - 9. Sto Corp.
 - 10. Stuc-O-Flex International, Inc.
 - 11. TEC; an H. B. Fuller company.
 - 12. Total Wall Inc.
- B. Source Limitations: Obtain EIFS components from single source from single EIFS manufacturer and from sources approved by EIFS manufacturer as compatible with system.

2.2 SYSTEM PERFORMANCE

- A. System is acceptable to authorities having jurisdiction based on evaluation per ICC-ES AC235, "Acceptance Criteria for EIFS Clad Drainage Wall Assemblies."
 - 1. System complies with optional requirements for exterior walls of Type II construction.
- B. Impact Classification: High Impact Resistance per EIMA 101.86.

2.3 MATERIALS

- A. Water-Resistive Coating: EIFS manufacturer's standard formulation and accessories for use as water/weather-resistive barriers, compatible with substrate, and complying with physical and performance criteria of ICC-ES AC212.
- B. Drainage Mat: Three-dimensional plastic mat or self-furring, PVC mesh lath] designed to drain moisture by gravity.
- C. Spacers: Closed-cell PE or self-furring, PVC mesh lath strips.
- D. Insulation Adhesive: EIFS manufacturer's standard formulation designed for indicated use and compatible with substrate.
- E. Molded-Polystyrene Board Insulation: ASTM C 578, Type I, complying with EIMA's "EIMA Guideline Specification for Expanded Polystyrene (EPS) Insulation Board."
- F. Reinforcing Mesh: Balanced, alkali-resistant, open-weave, glass-fiber mesh treated for compatibility with other system materials, complying with ASTM D 578.
 - 1. High-Impact Reinforcing Mesh: Not less than 15 oz./sq. yd. (509 g/sq. m).
- G. Base-Coat Materials: EIFS manufacturer's standard mixture of portland cement complying with ASTM C 150, Type I, and polymer-emulsion adhesive designed for use indicated.
- H. Finish-Coat Materials: EIFS manufacturer's standard acrylic-based coating, consisting of polymer-emulsion binder, colorfast mineral pigments, sound stone particles, and fillers.
- I. Mechanical Fasteners: EIFS manufacturer's standard corrosion-resistant fasteners consisting of thermal cap, standard washer and shaft attachments, and fastener.
- J. Trim Accessories: Type as designated or required to suit conditions indicated; manufactured from UV-stabilized PVC.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Water-Resistive Coatings: Apply over substrates to protect substrates from degradation and to provide water-/weather-resistive barrier.
 - 1. Tape and seal joints, exposed edges, terminations, and inside and outside corners of sheathing unless otherwise indicated by EIFS manufacturer's written instructions.
- B. Apply trim accessories at perimeter of EIFS and elsewhere as necessary. Coordinate with installation of insulation.
- C. Apply drainage mat and spacers over water-/weather-resistive barrier using attachment methods according to manufacturer's written instructions.

- D. Attach insulation to substrate to comply with ASTM C 1397 and with EIFS manufacturer's written requirements.
- E. Install base coat with a minimum total thickness at least 1/16 inch (1.6 mm), and completely covering reinforcing mesh so reinforcing-mesh color and pattern are not visible.
 - 1. Apply second base coat and second layer of reinforcing mesh. Do not apply until first base coat has cured.
- F. Apply finish coat over dry base coat, in thickness required by EIFS manufacturer to produce a uniform color and texture, free of variations.
- G. Remove all packaging, surplus materials, miscellaneous installation tools and other items associated with the EIFS work.
- H. Clean the work area, removing all incidental dried splash, smears, drips, etc. resulting from the EIFS work.
- I. Repair / restore any damage to property or existing finishes resulting from the EIFS work.

END OF SECTION 072419

SECTION 07 50 00 – MEMBRANE ROOF CUTTING & PATCHING**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

A. Submittals:

1. Product data to illustrate that repair materials are equivalent to and/or compatible with components of existing membrane roofing system.
2. Written certificate from the product manufacturer stating that Roofing Subcontractor is licensed and approved to install, modify, and make repairs to the membrane roof system.

B. Quality Control:

1. Comply with manufacturer's recommendations and with the *NRCA Roofing & Waterproofing Manual*, Latest Edition.
2. Upon completion of the roof patching work, Provide on-site inspection with written report by Manufacturer's representative.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Energy Performance: Initial Solar Reflectance not less than 0.70 and Thermal Emittance not less than 0.75 when tested according to CRRC-1.
- B. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980.
- C. Exterior Fire-Test Exposure: ASTM E 108, Class A.

2.2 ROOFING MATERIALS

- A. Roofing subcontractor shall verify roof membrane type (EPDM, Fabric-Reinforced Thermoplastic Polyolefin Sheet, etc.) by making an on-site inspection.
 1. Manufacturers of products meeting project requirements include but are not limited to:
 - a. Carlisle SynTec Incorporated.
 - b. Custom Seal Roofing.
 - c. Firestone Building Products Company.
 - d. GAF Materials Corporation.
 - e. GenFlex Roofing Systems.
 - f. Johns Manville.
 - g. Mule-Hide Products Co., Inc.
 - h. Stevens Roofing Systems; Division of JPS Elastomerics.
 - i. Versico Incorporated.
 2. Thickness: 60 mils, nominal.

3. Exposed Face Color: White.
- B. Auxiliary Materials: Recommended by roofing system manufacturer for intended use and as follows:
1. Sheet Flashing: Unreinforced sheet flashing, minimum, of same type and color as roof membrane.
 2. Bonding Adhesive: Manufacturer's standard.
 3. Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric, water permeable and resistant to UV degradation.
- C. Substrate Board: None (verify).

2.3 ROOF INSULATION

- A. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV or Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2.
- B. Fabricate tapered insulation with slope of 1/4 inch per 12 inches (1:48) unless otherwise indicated.
- C. Cover Board (if required): ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, Type X, 1/2 inch (13 mm) thick.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mechanically fasten each layer of insulation to deck.
- B. Install cover boards over insulation with long joints continuous and perpendicular to roof slopes with end joints staggered. Joint seams of cover boards shall be offset from joint seams of insulation. Loosely butt cover boards together and fasten to deck.
- C. Install membrane roof sheet according to roofing system manufacturer's written instructions and as follows:
1. Adhered Sheet Installation: Apply bonding adhesive to substrate and underside of sheet and allow to partially dry. Do not apply bonding adhesive to splice area of sheet.
 2. Mechanically Fastened Sheet Installation: Secure one edge of sheet using fastening plates or battens centered within the membrane splice and mechanically fasten sheet to roof deck.
- D. Seams: Clean seam areas, overlap membrane roofing, and (chemically or hot-air, as appropriate) weld side and end laps of membrane roofing and sheet flashings. Test lap edges with probe to verify seam continuity. Apply lap sealant to seal cut edges of sheet membrane.
- E. Spread sealant bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.

- F. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- G. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

END OF SECTION 07 50 00

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Quality Control:

1. Use only experienced technicians who are qualified to install firestopping products & systems in compliance with UL Designs and other project requirements
2. Use only accessory products identified by the firestopping product manufacturer as being compatible with the firestopping product when used in a penetration sealing system and approved by a qualified testing and inspecting agency.

PART 2 - PRODUCTS

2.1 PENETRATION FIRESTOPPING

A. Manufacturers:

1. A/D Fire Protection Systems Inc.
2. Grace Construction Products.
3. Hilti, Inc.
4. Johns Manville.
5. Nelson Firestop Products.
6. NUCO Inc.
7. Passive Fire Protection Partners.
8. RectorSeal Corporation.
9. Specified Technologies Inc.
10. 3M Fire Protection Products.
11. Tremco, Inc.; Tremco Fire Protection Systems Group.
12. USG Corporation.

B. Provide penetration firestopping materials that are compatible with one another, with substrates, and with penetrating items (pipes, conduits, etc.).

C. Penetrations in Fire-Resistance-Rated Walls and Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. F-Rating at Fire-Resistance-Rated Walls: Not less than that of construction penetrated.
2. F-Rating at Horizontal Assemblies: At least 1 hour, but not less than that of construction penetrated.
3. T-Rating at Horizontal Assemblies: At least 1 hour, but not less than the fire-resistance rating of construction penetrated except for penetrations within the cavity of a wall.

- D. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.
- E. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Identify penetration firestopping with preprinted metal or plastic labels or self-adhesive decals. Attach labels permanently to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Include the following information on labels:
 - 1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."

END OF SECTION 078413

SECTION 07 92 00 - JOINT SEALANTS**PART 1 - GENERAL**

1.1 QUALITY CONTROL REQUIREMENTS

- A. Submittals: Color Samples of manufacturer's standard range for Selection and Confirmation of color match to prefinished building components.
- B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F (4.4 deg C).

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

- A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.
- B. Sealant for Use in Building Expansion Joints:
 - 1. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses T, M, and O, with the additional capability to withstand 100 percent movement in extension and 50 percent movement in compression for a total of 150 percent movement.
- C. Sealant for General Exterior Use Where Another Type Is Not Specified, One of the Following:
 - 1. Single-component, nonsag polysulfide sealant, ASTM C 920, Type S; Grade NS; Class 12-1/2; Uses NT, M, G, A, and O.
 - 2. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; and Uses NT, M, A, and O.
- D. Sealant for Exterior Traffic-Bearing Joints, Where Slope Precludes Use of Pourable Sealant:
 - 1. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses T, NT, M, G, A, and O.
- E. Sealant for Exterior Traffic-Bearing Joints, Where Slope Allows Use of Pourable Sealant:
 - 1. Single-component, pourable urethane sealant, ASTM C 920, Type S; Grade P; Class 25; Uses T, M, G, A, and O.
- F. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchens and Toilet Rooms and Around Plumbing Fixtures:
 - 1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses NT, G, A, and O; formulated with fungicide.
- G. Sealant for Use in Metal-to-Metal Joints, Bedding Thresholds, Metal-to-Glass conditions, and areas where a seal is required against neoprene or EPDM gaskets:

1. Single-component, blend of butyl rubber and polyisobutylene, ASTM C 1311.
- H. Sealant for Interior Use at Perimeters of Door and Window Frames:
1. Latex sealant, single-component, nonsag, mildew-resistant, paintable, acrylic-emulsion sealant complying with ASTM C 834.
- I. Acoustical Sealant for Exposed Interior Joints:
1. Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834.
- J. Acoustical Sealant for Concealed Joints:
1. Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce transmission of airborne sound.
- 2.2 JOINT-SEALANT BACKING
- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer.
- B. Cylindrical Sealant Backings (Backer Rod): ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mask off adjacent surfaces with painter's tape to prevent staining or uneven application.
- B. Follow manufacturer's installation instructions on packaging, and employ responsible trade craft for sealant application.
- C. Tool joints to be slightly concave, thinner in the center than along the side walls of the joint.
- D. Allow fresh sealant to cure and then trim off any excess, rather than smearing the uncured material on to adjacent surfaces when trying to remove.

END OF SECTION 07 92 00

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES**PART 1 - GENERAL****1.1 SECTION REQUIREMENTS**

- A. Submittals: Product Data and Shop Drawings.
- B. Comply with ANSI/SDI A250.8.
- C. Fire-Rated Doors and Frames: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing per NFPA 252 at positive pressure.
 - 1. At stairs and/or exit passageways, provide doors that have a temperature rise rating of 450 deg F (250 deg C).
- D. Smoke-Control Door Assemblies: Comply with NFPA 105 or UL 1784.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Cold-Rolled Steel Sheets: ASTM A 1008/A 1008M, suitable for exposed applications.
- B. Hot-Rolled Steel Sheets: ASTM A 1011/A 1011M, free of scale, pitting, or surface defects.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, with G40 ((Z120) or)A40 (ZF120) metallic coating.
- D. Frame Anchors: ASTM A 591/A 591M, 4OZ ((12G)) coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls and for retrofit anchors (used in attaching new frames to existing openings), sheet steel complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

2.2 HOLLOW METAL DOORS AND FRAMES

- A. Manufacturers/Brands:
 - 1. Ceco, Curries, Steelcraft or other manufacturer of products that comply with listed criteria.
- B. Doors: Complying with ANSI 250.8 for level and model and ANSI A250.4 for physical-endurance level indicated, 1-3/4 inches (44 mm) thick unless otherwise indicated.
 - 1. Interior Doors: Level 1 and Physical Performance Level C (Standard Duty) Model 2 (Seamless).
 - 2. Exterior Doors: Level 2 and Physical Performance Level B (Heavy Duty) Model 2 (Seamless), metallic-coated steel sheet faces.
 - a. Thermal-Rated (Insulated) Doors: Provide doors with thermal-resistance value (R-value) of not less than R-4.0 when tested according to ASTM C 1363.

3. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as door face sheets.
- C. Frames: ANSI A250.8; conceal fastenings unless otherwise indicated.
1. Steel Sheet Thickness for Interior Door Frames: 0.042 inch (1.0 mm).
 2. Steel Sheet Thickness for Exterior Door Frames: 0.053 inch (1.3 mm).
 3. Fabricate interior frames with mitered or coped and continuously welded corners.
 4. Fabricate exterior frames from metallic-coated steel sheet, with mitered or coped and continuously welded corners.
 5. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.
 6. Frame Anchors: Not less than 0.042 inch (1.0 mm) thick.
 7. Frames for retrofitting (attaching new frames to existing openings) shall be drilled and prepped to allow penetration of surface mounted anchors.
- D. Glazing Stops: Non-removable stops on outside of exterior doors, on inside of window frames, and on secure side of interior doors; screw-applied, removable, glazing stops on inside, fabricated from same material as door face sheet in which they are installed.
- E. Door Silencers: 3 on strike jambs of single-door frames and 2 on heads of double-door frames.
- F. Grout Guards: Provide where mortar might obstruct hardware operation.
- G. Prepare doors and door frames to receive hardware according to ANSI A250.6 and ANSI A115 Series standards.
- H. Reinforce doors and door frames to receive surface-applied hardware.
- I. Prime Finish: Manufacturer's standard, factory-applied coat of lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install hollow metal frames plumb, square, and secure, to comply with ANSI/SDI A250.11.
1. Fire-Rated Frames: Install according to NFPA 80.
- B. Install doors to provide clearances between doors and frames as indicated in ANSI/SDI A250.11.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying rust-inhibitive primer.
1. Use galvanizing repair paint for metallic coated surfaces.
 2. Provide finishing caps or plugs for neatly sealing holes at surface-mounted (retrofit) frames.

END OF SECTION 08 11 13

SECTION 08 14 16 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Color & finish samples for factory-finished doors.
- B. Quality Standard: WDMA I.S.1-A.
- C. Fire-Rated Wood Doors: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing per NFPA 252 at positive pressure.
 - 1. At stairs and/or exit passageways, provide doors that have a temperature rise rating of 450 deg F (250 deg C).

PART 2 - PRODUCTS

2.1 DOOR CONSTRUCTION, GENERAL

- A. WDMA I.S.1-A Performance Grade:
 - 1. Heavy Duty unless otherwise indicated.
- B. Particleboard-Core Doors: Provide blocking in particleboard cores – or provide structural composite lumber cores instead of particleboard cores – for doors with exit devices or protection plates.
- C. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-protection rating indicated. Provide the following for mineral-core doors:
 - 1. Composite blocking where required to eliminate through-bolting hardware.
 - 2. Laminated-edge construction.

2.2 FLUSH WOOD INTERIOR DOORS (UNRATED)

- A. Doors fabricated from particleboard, MDF or solid lumber cores with solid wood blocking at all edges and veneered faces.
 - 1. Manufacturer: **Mohawk, Graham, Algoma** or equivalent.
 - 2. Face Veneer Species: Birch, WDMA & AWS “A” Grade, Book Match
 - 3. Vertical & Horizontal Edges: Unfaced, Mill Option (Standard)
 - 4. Finish: Factory prefinished (clear satin varnish, no stain) on all six surfaces
 - 5. Lites: Provide precut wood, prefinished matching stops & trim. See Door Elevations on drawings.
 - 6. Delivery / Handling: Shrink wrapped for protection on job site.
 - 7. Performance Duty Level: Heavy Duty
- B. Hollow metal frames & glazed sidelights are specified in other Sections.

2.3 FIRE-RATED FLUSH WOOD INTERIOR DOORS

- A. Doors fabricated from non-asbestos, fire-retardant particleboard or fire-retardant MDF with veneered exposed surfaces, or from solid fire-retardant-treated wood. Fire-rated doors shall be produced in compliance with NFPA 80 and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, based on testing per NFPA 252.
 - 1. Manufacturer: **Mohawk, Graham, Algoma** or equivalent.
 - 2. Face Veneer Species: Birch, WDMA & AWS “A” Grade, Book Match
 - 3. Vertical & Horizontal Edges: Special Construction to meet fire label requirements.
 - 4. Finish: Factory prefinished (clear, no stain) on all six surfaces
 - 5. Lites: Provide prefabricated, fire-rated, factory-finished matching stops & trim. See Door Elevations on drawings.
 - 6. Delivery / Handling: Shrink wrapped for protection on job site.
 - 7. Fire Rating: As indicated on drawings.
 - 8. Performance Duty Level: Extra Heavy Duty
- B. Fire-rated hollow metal frames are specified in other Sections.

2.4 FABRICATION AND FINISHING

- A. Factory fit doors to suit frame-opening sizes indicated and to comply with clearances specified.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3 and with accessibility code.
- C. Factory finish doors indicated for transparent finish with stain and manufacturer's standard finish complying with WDMA System TR-6, catalyzed polyurethane for grade specified for doors.
- D. Cover doors in protective wrap to preserve finish during shipping, storage and construction.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Ship, handle and store wood doors in strict accordance with manufacturer’s instructions.
- B. Install doors to comply with manufacturer's written instructions, WDMA I.S.1-A and as indicated.
 - 1. Install fire-rated doors to comply with NFPA 80.
- C. Hang doors by removing only enough shrink wrap to expose hinge and hardware locations. Allow shrink wrap to remain on all prefinished doors until final clean-up.
- D. Align and fit doors in frames with uniform clearances and bevels.

- E. Where doors are not factory machined for hardware, perform neat field machining using templates provided by hardware supplier. Seal cut surfaces after fitting and machining.
- F. Clearances: As follows, unless otherwise indicated:
 - 1. 1/8 inch (3.2 mm) at heads, jams, and between pairs of doors.
 - 2. 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering.
 - 3. 1/4 inch (6.4 mm) from bottom of door to top of threshold.
 - 4. Comply with NFPA 80 for fire-rated doors.
- G. Install factory-supplied stops & trim with fire-rated or heat-strengthened glazing per door manufacturer's instructions. Use recommended fasteners and plug or touch up holes from fasteners.
- H. Repair, refinish, or replace factory-finished doors damaged during installation, as directed by Architect.

END OF SECTION 08 14 16

SECTION 083323 - OVERHEAD COILING DOORS**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.

PART 2 - PRODUCTS

2.1 OVERHEAD COILING DOORS

- A. Manufacturers:
 - 1. ACME Rolling Doors.
 - 2. Alpine Overhead Doors, Inc.
 - 3. AlumaTek, Inc.
 - 4. C.H.I. Overhead Doors.
 - 5. City-Gates.
 - 6. Cookson Company.
 - 7. Cornell Iron Works, Inc.
 - 8. Dynamic Closures Corp.
 - 9. Lawrence Roll-Up Doors, Inc.
 - 10. Mahon Door Corporation.
 - 11. McKeon Rolling Steel Door Company, Inc.
 - 12. Metro Door.
 - 13. Overhead Door Corporation.
 - 14. QMI Security Solutions.
 - 15. Raynor.
 - 16. Southwestern Steel Rolling Door Co.
 - 17. Wayne-Dalton Corp.
 - 18. Windsor Door.
- B. Fire-Rated Doors: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing at as close to neutral pressure as possible according to NFPA 252 or UL 10B.
 - 1. For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
- C. Structural Performance: Provide doors capable of withstanding 20 lbf/sq. ft. (960 Pa) wind-loading pressure.
- D. Door Curtain Slats: Flat-profile, stainless steel preferred (use galvanized steel only if necessary for fire rating).

- E. Operation: Coiled-spring operation with ability to be raised and held in the “open” position for normal day-to-day operation. Fusible link / fire release for automatic closure in a fire emergency.
- F. Locks: Provide sliding bolts or latches on “private” side so that door may be secured in the “closed” position.
- G. Tracks, Supports, and Hardware: Manufacturer's standard for inside flush mount.
- H. Finish: Satin Stainless. If galvanized slats are required for fire rating, provide paint color samples for factory pre-finishing.
- I. Seals: Provide replaceable, fire rated flexible seals at door bottom and at side tracks.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install door, track, and operating equipment complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers, and equipment supports.
- B. Accessibility: Install overhead coiling doors, switches, and controls along accessible routes in compliance with regulatory requirements for accessibility.
- C. Install fire-rated doors to comply with NFPA 80.
- D. Test and adjust controls and safeties.

END OF SECTION 083323

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.

PART 2 - PRODUCTS

2.1 ALUMINUM-FRAMED STOREFRONTS

A. Manufacturers:

1. Arcadia, Inc.
2. Arch Aluminum & Glass Co., Inc.
3. CMI Architectural
4. Commercial Architectural Products, Inc.
5. EFCO Corporation.
6. Kawneer North America; an Alcoa company.
7. Leed Himmel Industries, Inc.
8. Pittco Architectural Metals, Inc.
9. TRACO.
10. Tubelite.
11. United States Aluminum.
12. Vistawall Architectural Products; The Vistawall Group; a Bluescope Steel company.
13. YKK AP America Inc.

- B. Accessible Entrances: Comply with ICC A117.1 and the NC Building Code, current edition.

C. Performance Requirements:

1. Limit deflection of framing members parallel to glazing plane to L/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.
2. Structural Testing: Systems tested according to ASTM E 330 at 150 percent of inward and outward wind-load design pressures do not evidence material failures, structural distress, deflection failures, or permanent deformation of main framing members exceeding 0.2 percent of clear span.
3. Air Infiltration: Limited to 0.06 cfm/sq. ft. of system surface area when tested according to ASTM E 283 at a static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pascals).
4. Water Penetration: Systems do not evidence water leakage when tested according to ASTM E 331 at minimum differential pressure of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).
5. Thermal Conductance: Average U-factor of not more than 0.57 Btu/sq. ft. x h x deg F (3.23 W/sq. m x K) when tested according to AAMA 1503.

6. Windborne-Debris Resistance: Framing system and doors pass “basic” protection testing requirements in ASTM E 1996 for Wind Zone 1 when tested according to ASTM E 1886.
- D. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated; ASTM B 209 (ASTM B 209M) sheet; ASTM B 221 (ASTM B 221M) extrusions.
 - E. Glazing: As specified in Section 088000 "Glazing."
 - F. Framing Members: Manufacturer's standard extruded-aluminum framing members, sized to accommodate 1” thick insulated glazing panels (nominally 2” wide x 4.5” deep), reinforced as required to support imposed loads.
 - G. Doors: 1-3/4-inch- (44.5-mm-) thick glazed doors with minimum 0.125-inch- (3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods. Provide snap-on, extruded-aluminum glazing stops, and preformed gaskets.
 1. Door Design: Medium stile; 3-1/2-inch (88.9-mm) nominal width.
 2. Accessible Doors: Smooth surfaced for width of door in area within 10 inches (255 mm) above floor or ground plane.
 3. Interior Doors: Provide BHMA A156.16 silencers, three on strike jamb of single-door frames and two on head of double-door frames.
 4. Exterior Doors: Provide compression weather stripping at fixed stops. At other locations, provide sliding weather stripping retained in a slot formed into door edge.
 5. Hardware: As specified on Drawing Sheet A-3.1 and in Section 087100 "Door Hardware."
 - H. Fasteners and Accessories: Compatible with adjacent materials, corrosion resistant, non-staining, and non-bleeding. Use concealed fasteners except for application of door hardware.
 - I. Fabrication: Fabricate framing in profiles indicated for flush glazing (without projecting stops). Provide sub-frames and reinforcing of types indicated or, if not indicated, as required for a complete system. Preassemble components in the factory to the greatest extent possible. Disassemble components only as necessary for shipment and installation.
 1. Coordinate prep for installation of door hardware supplied by others.
 2. Door Framing: Reinforce to support imposed loads. Factory assemble door and frame units and factory install hardware to greatest extent possible. Reinforce door and frame units for hardware indicated. Cut, drill, and tap for factory-installed hardware before finishing components.
 - J. Aluminum Finish: Class I, clear anodic finish; complying with AAMA 611.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Isolate metal surfaces in contact with incompatible materials, including treated wood, by painting contact surfaces with bituminous coating or primer, or by applying sealant or tape recommended by manufacturer.
- B. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.
- C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint Sealants" to produce a weather-tight installation.
- D. Install framing components true in alignment with established lines and grades to the following tolerances:
 - 1. Variation from Plane: Limit to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
 - 2. Alignment: For surfaces abutting in line, limit offset to 1/16 inch (1.5 mm). For surfaces meeting at corners, limit offset to 1/32 inch (0.8 mm).
 - 3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch (3 mm).
- E. Install doors without warp or rack. Adjust doors and hardware to provide tight fit at contact points and smooth operation.

END OF SECTION 084113

SECTION 08 71 00 - DOOR HARDWARE**PART 1 - GENERAL****1.1 SECTION REQUIREMENTS**

- A. Submittals: Provide hardware schedule, product data and keying schedule.
- B. Coordination:
 - 1. Hardware supplier to coordinate a meeting with the Owner's Representative (Facilities Manager) and the Police Chief to establish master keying arrangements.
 - 2. Hardware supplier shall coordinate hardware selection, locations & installation with the General Contractor and suppliers of Doors, Frames & Entrances.
- C. Deliver 6 complete sets of keys to Owner.
- D. Fire-Resistance-Rated Assemblies: Provide products that comply with NFPA 80 and are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for applications indicated. On exit devices, provide a permanent label indicating "Fire Exit Hardware."

PART 2 - PRODUCTS**2.1 HARDWARE**

- A. Hardware Sets are listed on the Door Elevation Drawings, Sheet A-3.1.
- B. Hardware Grades & Types:
 - 1. BHMA A156.2, Series 4000, Grade 2 for bored locks and latches.
 - 2. BHMA A156.3, Grade 1 for exit devices.
 - 3. BHMA A156.5, Grade 2 for auxiliary locks.
 - 4. BHMA A156.12, Series 5000, Grade 2 for interconnected locks and latches.
 - 5. BHMA A156.13, Series 1000, Grade 2 for mortise locks and latches.
 - 6. Provide lever handles on locksets/latchsets, selected from manufacturer's standard styles.
 - 7. Provide trim on exit devices that matches locksets.
- C. Hinges:
 - 1. Stainless-steel hinges with stainless-steel pins.
 - 2. Non-removable hinge pins on out-swinging doors.
 - 3. Ball-bearing hinges for all doors with closers and on all exterior entry doors.
 - 4. 3 hinges for 1-3/4-inch- (45-mm-) thick doors 90 inches (2300 mm) or less in height; 4 hinges for "Dutch" split doors and any doors more than 90 inches (2300 mm) in height.
- D. Cylinders & Keying System:
 - 1. Cylinders shall have six-pin tumblers and removable cores.
 - 2. Use split tumblers for master key system.
 - 3. Match the Owner's preferred key profile (DORMA blanks)
 - 4. Provide construction keying.

- E. Closers:
 - 1. Mount closers on interior side (room side) of door opening. Provide regular-arm, parallel-arm, or top-jamb-mounted closers as necessary.
 - 2. Adjustable delayed opening (accessible to people with disabilities) feature on closers.
- F. Bumpers / Floor Stops: Provide wall bumpers or floor stops for all doors without closers. Coordinate types & locations with Architect during a job site walk-through.
- G. Finishes: Provide hardware finishes as follows:
 - 1. Locksets, Latchsets, and Exit Devices: BHMA 630, US 32D, satin stainless steel.
 - 2. Hinges: Matching finish of lockset / latchset.
 - 3. Closers: Matching finish of lockset / latchset.
 - 4. Other Hardware: Matching finish of lockset / latchset.

2.2 MANUFACTURERS

- A. Lockset, Latchset, Exit Device and Closer Manufacturers:
 - 1. DORMA Group.
 - 2. ASSA ABLOY (Corbin-Russwin, McKinney, Rixson, Sargent, Yale).
 - 3. Ingersoll-Rand Security Technologies (Falcon, Schlage).
- B. Hinge Manufacturers:
 - 1. ASSA ABLOY (McKinney).
 - 2. Ingersoll-Rand Security Technologies.
 - 3. Stanley.
- C. Threshold, Weatherstrip and Accessory Manufacturers:
 - 1. ASSA ABLOY (Pemko).
 - 2. National Guard Products.
 - 3. ZERO International.
- D. Electric Strikes:
 - 1. Von Duprin.
 - 2. Adams Rite.
 - 3. Trine.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mount hardware in locations recommended by the Door and Hardware Institute and in compliance with applicable state & federal accessibility codes.
- B. Test for proper, smooth, trouble free operation. Adjust or re-set as necessary.

END OF SECTION 08 71 00

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 ADMINISTRATIVE REQUIREMENTS & QUALITY CONTROL

- A. Submittals: Product Data and Color Samples.
- B. Fire-Protection-Rated Glazing Labeling: Permanently mark fire-protection-rated glazing with certification label of a testing agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, test standard, whether glazing is for use in fire doors or other openings, whether or not glazing passes hose-stream test, whether or not glazing has a temperature rise rating of 450 deg F (250 deg C), and the fire-resistance rating in minutes.
- C. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201 and ANSI Z97.1.
- D. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- E. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated.
 - 1. GANA Publications: GANA Laminated Division's "Laminated Glass Design Guide" and GANA's "Glazing Manual."
 - 2. IGM Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
- F. Insulating-Glass Certification Program: Permanently marked with certification label of Insulating Glass Certification Council and Associated Laboratories, Inc.

PART 2 - PRODUCTS

2.1 GLASS, GENERAL

- A. Fire-Resistance-Rated Assemblies: Provide products that comply with NFPA 80 and are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for applications indicated.
- B. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201. Provide safety glazing labeling where safety glass is indicated.
- C. Windborne-Debris Resistance: Glazing passes “basic” protection testing requirements in ASTM E 1996 for Wind Zone 1 when tested according to ASTM E 1886.

2.2 GLASS PRODUCTS

- A. Float Glass: ASTM C 1036, Type I, Class 1 (clear) and Quality Q3.

- B. Heat-Treated Float Glass: ASTM C 1048, Condition A (uncoated), Type I, Class 1 (clear), Quality Q3, Kind FT (fully tempered).
- C. Wired Glass: ASTM C 1036, Type II, Class 1, Quality Q8; Form 1 (polished) with m2 (square) mesh, 6.4 mm (0.25 inch) thick.

2.3 FABRICATED GLASS PRODUCTS

- A. Fire-Rated Glazing: 20-minute fire-rated glazing without hose-stream test; ~~5/16-inch-~~ (8-mm-) thick, fire-protection-rated laminated glass.
 - 1. Products:
 - a. Oldcastle Glass, Inc.; Pyroguard.
- B. Fire-Rated Glazing: 45-minute fire-rated glazing; ~~5/16-inch-~~ (8-mm-) thick, fire-protection-rated, laminated ceramic glazing.
 - 1. Products:
 - a. Nippon Electric Glass Co. (dist. by Technical Glass Products); FireLite Plus.
 - b. Schott North America, Inc.; Laminated Pyran Crystal.
 - c. Vetrotech Saint-Gobain; SGG Keralite FR-L.
- C. Laminated Safety Glass: Two sheets of 3.0-mm-thick clear heat treated (fully tempered) float glass, with polyvinyl butyryl sheet or urethane acrylate resin interlayer. Comply with ASTM C 1172.
- D. Sealed Insulating-Glass Units: Factory-assembled units complying with ASTM E 774 for Class CBA units. Overall thickness: 1", with two (2) 6.0-mm-thick glass lites separated by a 0.50"-inch (13.0-mm) dehydrated space filled with argon gas. Perimeter of unit has thermal break of non-conductive material.
 - 1. Inboard & outboard lites: Clear float glass (tempered as required on drawings and by code for location).
 - 2. Low Solar Heat Gain Coefficient (SHGC) and High Visual Transmittance (VT): At new exterior storefront #1a, provide triple-silver, low-Emissivity coating for maximum solar reflectivity on third surface.

2.4 INSULATED COMPOSITE PANELS

- A. Provide 1" thick, insulated composite panels for installation in Aluminum Storefront Systems. Pre-cut panels to correct size in shop for best results.
 - 1. Insulating plastic core material: Varies with manufacturer.
 - 2. Skin: Factory painted aluminum.
 - 3. Face Texture: Smooth
 - 4. Color: As selected by Architect from submitted samples representing manufacturer's standard color range.
- B. Manufacturers:
 - 1. Citadel "Glazeguard 1000" (reference product).
 - 2. Thermolite.
 - 3. Reynobond.

2.5 GLAZING SEALANTS

- A. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 25, Use NT.
 - 1. Products:
 - a. Dow Corning Corporation; 799.
 - b. GE Advanced Materials - Silicones; UltraGlaze SSG4000 or UltraGlaze SSG4000AC.
 - c. May National Associates, Inc.; Bondaflex Sil 200 GPN or Bondaflex Sil 201 FC.
 - d. Polymeric Systems, Inc.; PSI-631.
 - e. Schnee-Morehead, Inc., an ITW company; SM5731 Poly-Glaze Plus.
 - f. Tremco Incorporated; Proglaze SSG or Tremsil 600.
- B. Glazing Sealants for Fire-Rated Glazing Products: Products that are approved by testing agencies that listed and labeled fire-resistant glazing products with which they are used for applications and fire-protection ratings indicated.
- C. Low-Emitting Materials: Sealants shall have a VOC content of not more than 250 g/L.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with combined recommendations of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are contained in GANA's "Glazing Manual."
- B. Set glass lites and composite panels.
- C. Remove non-permanent labels and clean surfaces immediately after installation. Allow protective wrap to remain on composite panels until Final Cleaning (just prior to Substantial Completion) in order to preserve the paint finish

END OF SECTION 08 80 00

SECTION 08 90 00 - LOUVERS AND VENTS**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Provide architectural, exterior wall-mounted Brick Vents for use as intake and exhaust fittings to accommodate duct sizes indicated on Mechanical Drawings, allowing for equivalent net free area.
- B. Submittals: Product Data (with illustrations).

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum: ASTM B 221 (ASTM B 221M), Alloy 6063-T5 for extrusions; ASTM B 209 (ASTM B 209M), Alloy 3003 or 5005 for sheet.
- B. Fasteners: Of same basic metal and alloy as fastened metal or use 300 Series stainless steel.

2.2 LOUVERS / VENTS

- A. Horizontal, Extruded-Aluminum Brick Vents with perimeter flange for surface mounting:
 - 1. Reference Standard:
 - a. Model “BVF” by Greenheck Company, www.greenheck.com, Telephone 715-359-6171.
 - 2. Other Manufacturers:
 - a. LM Curbs, www.lmcurbs.com, Telephone 800-284-1412.
 - b. Metallic Products, www.mpvent.com, Telephone 800-356-7746.
 - 3. Frame: Heavy gauge extruded 6063T5 Aluminum, 0.125 inch thick (nominal).
 - 4. Louvers: Overlapping louver blades with storm stops. Heavy gauge extruded 6063T5 Aluminum, 0.125 inch thick (nominal), positioned at 45 degree angles.
 - 5. Additional rain / weather protection: high water stop at rear of frame, integral with sill.
 - 6. Size: Standard sizes, allowing for equivalent net free area and for converting rectangular straight duct from back of louver to round duct @ HVAC System connection.
 - 7. Finish: 204-R1 clear anodized.
 - 8. Duct Extensions: 12” straight rectangular, factory prefabricated from 0.063 in-thick aluminum sheet.
 - 9. Dampers: None.

2.3 LOUVER SCREENS

- A. Provide insect & bird screen at interior face (rear) of each intake/exhaust fitting. Fabricate screen frames from same kind and form of metal as indicated for louver to which screens are attached.
 - 1. 18 x 14 Aluminum mesh.

2.4 MISCELLANEOUS ADAPTORS, DUCT EXTENSIONS & METAL SHEET

- A. Provide miscellaneous adaptors, duct extensions & metal sheet for use in joining the fresh air intake or exhaust ducts duct to the back of the louver. Use compatible metals and fasteners to prevent corrosion.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate openings for intake & exhaust vents to miss structural steel and metal stud framing. Clearly mark the area where existing construction is to be cut and removed.
- B. Cut wall openings carefully, to outside measurements of the duct collar or fitting (allowing ¼” greater due to fastener heads and for duct extension) using side wheel grinders with masonry cutting wheels, to minimize damage to adjacent surfaces from cutting activity. DO NOT USE SLEDGEHAMMERS, HAMMER DRILLS or other vibrating tools.
- C. Protect metal surfaces that will be in contact with concrete, masonry, or dissimilar metals from corrosion or galvanic action by painting surfaces with a heavy bituminous coating or wrapping surfaces with non-metallic, flexible flashing tape.
- D. Install louvers and vents square, plumb, level, and in alignment with adjacent work. Set flange in a continuous bead of compatible sealant. Carefully remove any excess sealant, avoiding stains to the existing face brick.
- E. Use concealed anchorages where possible.

END OF SECTION 08 90 00

SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 METAL FRAMING AND SUPPORTS

- A. Steel Framing Members, General: ASTM C 754.
 - 1. Steel Sheet Components: ASTM C 645. Thickness specified is minimum uncoated base-metal thickness.
 - 2. Protective Coating: ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating.
- B. Suspended Ceiling and Soffit Framing, Ceiling and Wall and Furring:
 - 1. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch (1.59-mm) diameter, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
 - 2. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, and 0.162-inch (4.12-mm) diameter.
 - 3. Carrying Channels: Cold-rolled steel, 0.0538 inch (1.37 mm) thick, 1-1/2 inches (38.1 mm) deep.
 - 4. Ceiling Furring Channels: Steel, rigid hat-shaped channels; 7/8 inch (22.2 mm) deep, 0.0296 inch (0.752 mm) thick, Galvanized.
- C. Partition and Soffit Framing and Wall Furring:
 - 1. Studs and Runners: “CSJ” type with a 1-5/8” flange and a 1/2” return, in depth indicated and thickness of **20 gauge** for general use, **18 gauge and 16 gauge** for areas supporting a rated ceiling construction (see Drawings for location); galvanized.
 - 2. Ceiling Joists: “CSJ” type with a 1-5/8” flange and a 1/2” return, in depth indicated. Thickness shall be **18 gauge and 16 gauge** for areas supporting a rated ceiling construction (see Drawings for location); galvanized.
 - 3. Flat Strap and Backing: 0.0296 inch (0.752 mm) thick.
 - 4. Rigid Hat-Shaped Furring Channels: Galvanized steel, 7/8 inch (22.2 mm) deep, 0.0296 inch (0.752 mm) thick.
 - 5. Z-Furring: In 1-1/2-inch depth required by insulation, 1-1/4-inch (31.8-mm) face flange, 7/8-inch (22.2-mm) wall-attachment flange, and 0.0179 inch (0.454 mm) thick, galvanized.

2.2 ACCESSORIES

- A. General: Comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Acoustical Sealant for Concealed Joints: Nonsag latex sealant complying with ASTM C 834.
- C. Sill-Sealer: Closed-cell neoprene foam, 1/4 inch thick.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation and with United States Gypsum's "Gypsum Construction Handbook."
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Isolate steel framing from building structure, except at floor, to prevent transfer of loading imposed by structural movement.
 - 1. Where studs are installed directly against existing exterior walls, install foam-gasket isolation strip (sill sealer) between studs and wall.
- D. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.

END OF SECTION 09 22 16

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: None Required.
- B. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS

- A. Provide in maximum lengths available to minimize end-to-end butt joints.
- B. Interior Gypsum Board: ASTM C 36/C 36M or ASTM C 1396/C 1396M, in thickness indicated, with manufacturer's standard edges.
 - 1. Regular type for exterior walls and other walls that are not part of fire-resistance-rated assemblies.
 - 2. Type X where required for specific fire-resistance-rated assemblies.

2.2 ACCESSORIES

- A. Trim Accessories: ASTM C 1047, formed from galvanized steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
 - 1. Provide corner bead at all outside corners unless otherwise indicated.
 - 2. Provide L-bead or J-bead at all exposed panel edges.
 - 3. Provide “double V” control joints where indicated at ceiling break lines.
 - 4. Provide drywall control joints at intervals and locations where good trade practice indicates their use for crack prevention, whether or not indicated on Drawings.
- B. Joint-Treatment Materials: ASTM C 475/C 475M.
 - 1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
 - 2. Joint Compounds: Setting-type taping compound and drying-type, ready-mixed, compounds for topping.
- C. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining latex sealant complying with ASTM C 834.
- D. Sound-Attenuation Blankets: ASTM C 665, Type I (unfaced).
- E. Fasteners:

1. For use in wood framing & furring: Bugle-head coarse-threaded steel screws of sufficient length to penetrate a minimum 1” into wood supports.
 2. For use in metal furring & clips: Bugle-headed fine-thread, drill-point hard steel screws of sufficient length for threads to engage metal supports ¼”.
- F. Metal furring & accessories:
1. Galvanized metal “hat channel”, 7/8” high. Run perpendicular to roof framing. Hang from framing with steel wire.
 2. Friction-fit metal beam or column clips: “The Claw” Beam Clips by Claw International / 5309 Highway 75 North, Suite 112 / Sioux City, Iowa 51108 / (712) 239-1196 / www.theclaw.net

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Project conditions:
1. The building must be completely “dried in” and have no standing water inside prior to commencing Gypsum Board installation. Do not deliver or store gypsum board material on site, nor begin installation, until satisfactory conditions exist.
 2. Set aside and do not use any Gypsum Board that has been wet, oil-stained, damaged, or bent to the extent that the paper surface shows folds or crimps.
- B. Install gypsum board to comply with ASTM C 840.
1. Isolate gypsum board assemblies from abutting structural and masonry work by holding drywall back 3/8” from end/edge contact. Provide edge trim (L-bead or J-bead) and acoustical sealant.
 2. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
 3. Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.
- C. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.
- D. Finishing Gypsum Board: ASTM C 840.
1. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.

END OF SECTION 09 29 00

SECTION 093000 - TILING**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Samples.
- B. Obtain tile of each type and color or finish from same production run for each contiguous area
- C. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.

PART 2 - PRODUCTS

2.1 CERAMIC TILE

- A. Ceramic tile that complies with Standard grade requirements in ANSI A137.1, "Specifications for Ceramic Tile."
- B. Floor Tile: Glazed, impervious natural clay or porcelain paver tile.
 - 1. Manufacturers:
 - a. American Marazzi Tile, Inc.
 - b. American Olean; Division of Dal-Tile International Inc.
 - c. Crossville, Inc.
 - d. Daltile; Division of Dal-Tile International Inc.
 - e. Deutsche Steinzeug America, Inc.
 - f. Florida Tile Industries, Inc.
 - g. Florim USA.
 - h. GranitiFiandre; c/o Trans Ceramica, Ltd.
 - i. Interceramic.
 - j. Laufen.
 - k. Lone Star Ceramics Company.
 - l. Grupo Porcelanite.
 - m. Portobello America, Inc.
 - n. Seneca Tiles, Inc.
 - o. United States Ceramic Tile Company.
 - 2. Face Size: Nominal 12" x 12", actual 11-13/16 by 11-13/16 inches (300 by 300 mm).
 - 3. Thickness: Minimum 3/8 inch (9.5 mm).
 - 4. Edges: Square or cushion edges.
 - 5. Finish: Slip-resistant, Matte, opaque glaze.
 - 6. Face Pattern and Color: Simulated stone texture, color selected from Manufacturer's standard range in samples submitted to Architect.
 - 7. Grout Color: As selected from standard color range in samples submitted to Architect.

8. Trim Units: Coordinated with sizes and coursing of adjoining flat tile and matching characteristics of adjoining flat tile:
 - a. Base: Coved.
 - b. Base Cap for Thin-Set Mortar Installations: Surface bullnose.
 - c. External Corners for Thin-Set Mortar Installations: Surface bullnose.
 - d. Internal Corners: Cove.

C. Accessories:

1. Metal Transition Strip: Provide appropriate profiles for conjunction of tile with various materials (VCT, Carpet) in brushed aluminum or satin stainless steel finish.

2.2 INSTALLATION MATERIALS

- A. Low-Emitting Materials: Adhesives and fluid-applied waterproofing membranes shall comply with ICC 700, "National Green Building Standard." The NGBS references Green Seal's GS-36 and the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- B. Waterproofing Membranes for Thin-Set Installations: ANSI A118.10, [fabric-faced chlorinated polyethylene, PVC, or polyethylene sheet product] [fabric-reinforced modified bituminous product] [fabric-reinforced liquid-latex or elastomeric polymer product] [unreinforced liquid-latex or elastomeric polymer product] [urethane waterproofing and adhesive].

- C. Setting and Grouting Materials: Comply with material standards in ANSI's "Specifications for the Installation of Ceramic Tile" that apply to materials and methods indicated.

1. Thin-Set Mortar Type: Latex-portland cement.

a. Manufacturers:

- 1) Boiardi Products; a QEP company.
- 2) Bonsal American; an Oldcastle company.
- 3) Bostik, Inc.
- 4) C-Cure.
- 5) Custom Building Products.
- 6) Jamo Inc.
- 7) Laticrete International, Inc.
- 8) MAPEI Corporation.
- 9) Southern Grouts & Mortars, Inc.
- 10) Summitville Tiles, Inc.
- 11) TEC; a subsidiary of H. B. Fuller Company.

2. Water-Cleanable, Tile-Setting Epoxy:

a. Manufacturers:

- 1) Atlas Minerals & Chemicals, Inc.
- 2) Bonsal American; an Oldcastle company.
- 3) Bostik, Inc.
- 4) C-Cure.

- 5) Custom Building Products.
 - 6) Jamo Inc.
 - 7) Laticrete International, Inc.
 - 8) MAPEI Corporation.
 - 9) Mer-Kote Products, Inc.
 - 10) Southern Grouts & Mortars, Inc.
 - 11) Summitville Tiles, Inc.
 - 12) TEC; a subsidiary of H. B. Fuller Company.
3. Organic Adhesive: ANSI A136.1, Type I.
 - a. Manufacturers:
 - 1) Bonsal American; an Oldcastle company.
 - 2) Bostik, Inc.
 - 3) C-Cure.
 - 4) Custom Building Products.
 - 5) DAP Inc.
 - 6) Jamo Inc.
 - 7) Laticrete International, Inc.
 - 8) MAPEI Corporation.
 - 9) Southern Grouts & Mortars, Inc.
 - 10) Summitville Tiles, Inc.
 - 11) TEC; a subsidiary of H. B. Fuller Company.
 - 12) <Insert manufacturer's name>.
 4. Grout Type: Standard cement or polymer modified.
 - a. Manufacturers:
 - 1) Boiardi Products; a QEP company.
 - 2) Bonsal American; an Oldcastle company.
 - 3) Bostik, Inc.
 - 4) C-Cure.
 - 5) Custom Building Products.
 - 6) Jamo Inc.
 - 7) Laticrete International, Inc.
 - 8) MAPEI Corporation.
 - 9) Southern Grouts & Mortars, Inc.
 - 10) Summitville Tiles, Inc.
- D. Grout Sealer: Colorless, slip and stain resistant, not affecting color or physical properties of cured cement-based grout.
1. Manufacturers:
 - a. Bostik, Inc.
 - b. Custom Building Products.
 - c. Hillyard, Inc.
 - d. HMK Stone Care System.
 - e. Summitville Tiles, Inc.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
 - 1. For installations indicated below, follow procedures in ANSI's "Specifications for the Installation of Ceramic Tile" for providing 95 percent mortar coverage.
 - a. Tile floors in wet areas.
 - b. Tile floors composed of tiles 8 by 8 inches (200 by 200 mm) or larger.
 - c. Tile floors composed of rib-backed tiles.
- B. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so trim, collars, or covers overlap tile.
- C. Lay tile in grid pattern unless otherwise indicated. Align joints where adjoining tiles on floor, base, walls, and trim are the same size.
- D. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped at least 1/4 inch per foot toward drains.
- E. Install waterproofing to comply with ANSI A108.13.
- F. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.
- G. After grout has cured for at least 7 days, apply sealer to grout joints according to sealer manufacturer's written instructions.
- H. Interior Floor Tile Installation Method(s):
 - 1. Over Concrete Subfloors: TCA F112 (cement mortar bed bonded to concrete), TCA F113 (thin-set mortar) or TCA F116 (with water-cleanable epoxy adhesive).
 - 2. Over Waterproof Membranes on Concrete Subfloors: TCA F121 (cement mortar bed) or TCA F122 (thin-set mortar).
- I. Interior Wall Tile Installation Method(s):
 - 1. Over Metal Studs or Furring: TCA W242 (organic adhesive on gypsum board)

END OF SECTION 093000

SECTION 09 51 13 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Provide new acoustical panel ceiling systems as well as replacement tiles in areas of the building where existing grid is scheduled to remain in place.
- B. Submittals: Product Data and material Samples.
- C. Surface-Burning Characteristics of Panels: ASTM E 1264, Class A materials, tested per ASTM E 84.
- D. Seismic Standards: Provide acoustical panel ceilings designed and installed with seismic restraints in accordance with the International Building Code, to withstand the effects of earthquake motions for this Seismic Zone.

PART 2 - PRODUCTS

2.1 ACOUSTICAL PANELS

- A. Available Products:
 - 1. Armstrong “Fine Fissured” or equivalent by USG, Certainteed, or Hunter Douglas.
 - 2. Color: White, surface finished, factory-applied latex paint.
- B. Classification: As follows, per ASTM E 1264:
 - 1. Type and Form: Type III, Form 2.
 - 2. Material: Wet-formed mineral fiber.
 - 3. Pattern: Non-directional, perforated, small holes and fissured.
 - 4. Light Reflectance (LR) Coefficient: Not less than 0.85.
 - 5. Noise Reduction Coefficient (NRC): Not less than 0.55.
 - 6. Ceiling Attenuation Class (CAC): Not less than 35.
- C. Edge Detail: Square.
- D. Thickness: 5/8 inch (15 mm).
- E. Modular Size: 24 by 24 inches (610 by 610 mm).
- F. Other characteristics:
 - 1. Formaldehyde free.
 - 2. Anti-microbial treatment with 30 year warranty against growth of mold/mildew and bacteria.

2.2 CEILING SUSPENSION SYSTEM

- A. Wide-face, direct-hung system; ASTM C 635, intermediate- to heavy-duty structural classification.
 - 1. Armstrong “Prelude XL 15/16” Exposed Tee” or equivalent by USG, Certainteed, Hunter Douglas or Chicago Metallic.
 - 2. Color: White.
- B. Other components: Wall Moldings
 - 1. Angle moldings with leg/flange length as appropriate for intended use (see Detail drawings).
- C. Attachment Devices: Sized for 5 times the design load indicated in ASTM C 635, Table 1, Direct Hung (also comply with seismic design requirements).
- D. Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel wire; ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 1. Size: Provide yield strength at least 3 times the hanger design load (ASTM C 635, Table 1, Direct Hung), but not less than 0.106-inch- (2.69-mm-) diameter wire.
- E. Seismic Clips (if required): Manufacturer's standard seismic clips designed to secure panels in place.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Ceiling Suspension System Installation: Comply with ASTM C636 and CISCA's "Ceiling Systems Handbook."
 - 1. Fire-Rated Assembly: None.
- B. Install acoustical panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.
- C. If acoustical panels are directionally patterned, arrange in a basket-weave pattern.

END OF SECTION 09 51 13

SECTION 09 60 00 – RESINUOUS (EPOXY) FLOORING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Scope: Provide resinuous coating on the concrete slab floor of the covered front entrance that is being enclosed as a vestibule. Provide a termination bar at 4” AFF along each side wall as a screed line for a resinuous cove base.
- B. Submittals:
 - 1. Product Data, Samples.
 - 2. Material Safety Data Sheets (MSDS).
 - 3. Maintenance and Care Instructions for completed flooring installations.
- C. Compliance:
 - 1. Meets USDA and FDA standards for use in kitchens.
- D. Quality Control:
 - 1. Use only factory-trained and authorized installers.
 - 2. Comply with OSHA worker safety regulations for the hazard level based on the rating of the materials used and the job site conditions.

PART 2 - PRODUCTS

2.1 SEAMLESS FLOOR COATING SYSTEM

- A. Decorative Floor Coating System consisting of colored stone aggregates (granules) suspended in a 100% solids epoxy.
- B. Overall system thickness: 0.25 inch. Aggregate size: Coarse (Q11).
- C. Available manufacturers:
 - 1. “Dur-A-Quartz” by Dur-A-Flex, Inc., www.dur-a-flex.com, Telephone 800-253-3539.
 - 2. Equivalent products by other manufacturers including but not limited to: Stonhard, Crawford Laboratories/Florock, Crossfield Products Corp./Dex-O-Tex.

2.2 ACCESSORIES

- A. Wall primer:
 - 1. Dulux (ICI) Block Filler.
- B. Filling pores and cracks:
 - 1. “Dur-A-Glaze 4 Resin Cove-Rez” by Dur-A-Flex, Inc., thickened with “Cab-O-Sil M5 (2.5 times the resin volume) and with “Dur-A-Glaze 4 Fast Hardener”.

PART 3 - EXECUTION**3.1 SURFACE EXAMINATION AND PREPARATION**

- A. Test the concrete floor slabs in several locations for moisture content in accordance with Epoxy Flooring System manufacturer's instructions. Perform drying operations if necessary with fans, heaters & dehumidifiers.
- B. Do not proceed with Epoxy Flooring work until a re-test performed in several locations confirms the slab moisture content is within the manufacturer's specified limits.
- C. Testing for an existing sealer: Test to see if the concrete floor is 'sealed' by pouring a small amount of muriatic acid on the floor in several spots. If it froths instantly, the floor is not sealed. If the acid does not froth immediately, a sealer, paint and/or other substance is present and must be removed by scarifying or other mechanical methods.
- D. Remove adhesives, mastics and other membranes that may be left from the removal of the floor finish through the use of chemical strippers or mechanical methods (grinding or scarifying equipment). After removal, follow surface-cleaning procedures.
- E. Surface Cleaning and removal of bond-inhibiting contaminants: Remove oils, grease, dirt, wax, sealers, curing compounds, laitance, salts and any other hydrocarbon-based materials by one or more of the following methods: vacuum cleaning, air blast cleaning, water cleaning, detergent water cleaning, or steam cleaning.
- F. Allow concrete slab to thoroughly dry after cleaning operations.
- G. Prep new and existing masonry and drywall surfaces by priming with block filler (see ACCESSORIES above).
- H. Fill pores and cracks (see ACCESSORIES above).

3.2 PROTECTION

- A. Protect adjacent work and equipment from accidental exposure to Preparation, Cleaning, and Installation work relating to the Epoxy Flooring System.
- B. Make sure that General Contractor discontinues all other activities in the immediate area of the work site, and nearby Work that could result in the contamination of the Epoxy Floor System, for the entire duration of the Epoxy Flooring Work.

3.3 INSTALLATION

- A. Do not proceed with installation until all project conditions are determined to be satisfactory.
- B. Follow Manufacturer's instructions. Provide cant strips, fillers or backing where material is to be coved.
- C. After installation, barricade the work area to prevent all through traffic, allowing sufficient time for the Epoxy Floor System to cure before reopening the area.

3.4 CLEANING

- A. Clean completed flooring and the work area after installation is complete.

END OF SECTION 09 60 00

SECTION 09 65 00 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Sample box of standard range of colors & patterns.
- B. Fire-Test Response: Resilient tile has critical radiant flux classification of Class I, not less than 0.45 W/sq. cm per ASTM E 648.
- C. Extra Materials: Deliver to Owner 1 box (2%) for every 50 boxes or fraction thereof, of each type and color of resilient floor tile installed.

PART 2 - PRODUCTS

2.1 VINYL COMPOSITION FLOOR TILE

- A. Manufacturers / Brands offering acceptable products include but are not limited to:
Armstrong, Congoleum, Mannington, Azrock/Tarkett.
- B. Color and Pattern: Colors to be selected by Architect from submittal.
- C. ASTM F 1066, Class 2 (through-pattern tile).
- D. Wearing Surface: Smooth.
- E. Thickness: 0.125 inch (1/8”).
- F. Size: 12 by 12 inches.

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, cement-based formulation provided or approved by flooring manufacturer for applications indicated.
- B. Adhesives: Water-resistant type approved by manufacturer for substrate conditions indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Prepare concrete substrates according to ASTM F 710. Verify that substrates are vacuum clean, dry and free of curing compounds, sealers, and hardeners.
- B. Lay out tiles so tile widths at opposite edges of room are equal and measure at least 1/2 tile.
- C. Remove tiles from cartons in same sequence as manufactured and packaged. Lay tiles with grain running in one direction where solid color fields are indicated, otherwise use alternating grain directions in checkerboard patterns indicated.
- D. After adhesive has set, return to strip the factory finish. After drying, seal the floor with four (4) coats of manufacturer-approved polish, allowing for drying after each coat. Buff to a high sheen.

END OF SECTION 09 65 00

SECTION 09 65 13 - RESILIENT BASE AND ACCESSORIES**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: Base & Trim Strip Color Samples – manufacturer’s range of standard colors. Catalog of manufacturer’s standard range of trim & transition strip profiles.
- B. Extra Materials: Deliver to Owner at least 20 linear feet of each type and color installed.

PART 2 - PRODUCTS

2.1 WALL BASE

- A. Manufacturers offering products that meet project requirements include but are not limited to: Armstrong, Flexco, Johnsonite, Roppe.
- B. Color and Pattern: Solid color to be selected by Architect. Plain 4” base (no pattern).
- C. ASTM F 1861, Type TS (rubber, vulcanized thermoset).
- D. Group (Manufacturing Method): I (solid, homogeneous).
- E. Style: Cove (with top-set toe).
- F. Minimum Thickness: 0.125 inch.
- G. Height: 4 inches.
- H. Lengths: Coils, in manufacturer's standard lengths.
- I. Outside Corners: premolded.
- J. Inside Corners: premolded.

2.2 RESILIENT ACCESSORY

- A. Manufacturers offering products that meet project requirements include but are not limited to: Armstrong, Flexco, Johnsonite, Roppe:
- B. Color: To be selected by Architect.
- C. Description: Joiner strip / transition strip for 1/8” resilient tile to carpeting.
- D. Material: Rubber.
- E. Profile and Dimensions: To be selected by Architect from manufacturer’s standard offerings.

2.3 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, cement-based formulation provided or approved by flooring manufacturer for applications indicated.

- B. Adhesives: Water-resistant, high-tack (fast grab) type recommended by manufacturer to suit substrate conditions.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Prepare concrete substrates according to ASTM F 710. Verify that substrates are vacuum clean, dry and free of curing compounds, sealers, and hardeners.
- B. Install resilient wall base and accessories in a full bed of adhesive, applied with notched trowel, especially at outside and inside corners.
- C. Install wall base in maximum lengths possible. Apply to walls, columns, pilasters, casework, and other permanent fixtures in rooms or areas where base is required.
- D. Install trim & transition strips at edges of floor coverings that would otherwise be exposed.

END OF SECTION 09 65 13

SECTION 096800 - CARPETING**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Samples.
- B. Extra Materials: Deliver to Owner carpet tiles equal to 5 percent of each type and color installed, packaged with protective covering for storage.

PART 2 - PRODUCTS

2.1 CARPET TILE

- A. Manufacturers:
 - 1. Bigelow
 - 2. Interface / Flor.
 - 3. Mannington
 - 4. Mohawk
 - 5. Shaw
- B. Color & Pattern: As selected from samples provided by vendor for allowance price range specified.
- C. Fiber Content: 100 percent recycled solution-dyed nylon or 100 percent recycled solution-dyed polypropylene. Anti-microbial treated.
- D. Face Construction: Textured patterned level-loop pile.
- E. Density: Minimum 20 oz./cu. yd.
- F. Pile Thickness: 0.125 inches for finished carpet tile.
- G. Surface Pile Weight: Minimum 20 oz./cu. yard, excluding the weight of backing.
- H. Primary Backing: Manufacturer's standard non-aqueous, non-wicking material.
- I. Secondary Backing: Manufacturer's standard reinforced composite closed cell polymer.
- J. Size: 24 by 24 inches.
- K. Surface characteristics / fire rating: Comply with State Building Code for finishes.
- L. Warranty: 15 years against color loss and staining.

2.2 INSTALLATION ACCESSORIES

- A. Carpet Tile Adhesive: Pressure-sensitive type that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for conditions indicated for releasable installation.
 - 1. Low-Emitting Materials: Adhesive shall have a VOC content of 50 g/L or less.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with CRI 104.
- B. Carpet Tile Installation Method: As recommended by manufacturer for partial glue down; install periodic tiles with releasable, pressure-sensitive adhesive. The remainder of tiles are free laid (install carpet tiles without adhesive).
 - 1. Install borders parallel to walls.

END OF SECTION 096800

SECTION 09 91 00 - PAINTING**PART 1 - GENERAL****1.1 SECTION REQUIREMENTS**

- A. Summary:
 - 1. Paint all new and existing exposed previously painted surfaces indicated on drawings.
 - 2. See the Room Finish Schedule on the Drawings, Sheet A-3.1.
 - 3. Paint the surfaces with specified number of coats even if area is not visible from normal viewing height, such as tops of metal doors & door frames.
 - 4. Do not paint prefinished items, items with an integral finish, operating parts, and labels.
 - 5. Plumbing/Mechanical/Electrical subcontractors shall be responsible for color-coding or paint marking of piping, ductwork or wiring in accessible work spaces.
- B. Submittals:
 - 1. Product Data.
 - 2. Color Samples (Fan Deck).
- C. Standards:
 - 1. Products shall comply with MPI standards indicated and listed in "MPI Approved Products List."
 - 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" and "MPI Maintenance Repainting Manual" for products and paint systems indicated.
- D. Extra Materials: Deliver to Owner a maintenance supply consisting of one (1) gallon of each color and type of finish coat wall paint, one (1) quart of each color and type of finish coat ceiling paint, one (1) quart of each color and type of finish coat wood trim paint and one (1) quart of each color and type of finish coat metal trim paint used on Project, in non-rusting containers, properly labeled and sealed.
- E. Paint Mix Formulas. Deliver to Owner a list of the paint mix formulas for each type of finish coat paint used.

PART 2 - PRODUCTS**2.1 PAINT**

- A. Manufacturers / Brands producing acceptable materials include but are not limited to:
 - 1. Benjamin Moore, Duron, ICI/Glidden, Sherwin-Williams.
- B. Material Compatibility: Provide materials that are compatible with one another and with substrates.
 - 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

- C. Colors: As selected by Architect from submitted color fan deck.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove hardware, lighting fixtures, trim plates and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.
- B. Completely clean and prepare surfaces in an area prior to beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.
- C. SPECIAL NOTE: At wall areas in main lobby & main exit corridor where vinyl wallcovering is indicated to be removed, the drywall surface will require extra preparation, including but not necessarily limited to: and re-priming.
 - 1. Additional sanding to remove wallcovering adhesive residue and create a smooth surface.
 - 2. Re-priming of sanded surfaces.

3.2 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use brushes for 1st and 2nd finish coats (cutting-in, details, and interior trim).
 - 2. Use rollers for 1st and 2nd finish coats on broad, smooth surfaces such as interior walls and ceilings.
 - 3. Use spray application methods ONLY for prime coat.
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other imperfections. Cut in sharp lines and color breaks.
 - 1. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- C. Apply stains and transparent finishes to produce surface films without color irregularity, cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other imperfections. Use multiple coats to produce a smooth surface film of even luster; sand or steel wool between coats if necessary.

3.3 EXTERIOR PAINT APPLICATION SCHEDULE

- A. Exposed Steel (such as lintels and hollow metal doors & frames):
 - 1. Semigloss, Quick-Dry Industrial Enamel: Two coats over rust-inhibitive primer: MPI EXT 5.1A.
- B. Galvanized Metal:
 - 1. Semigloss, Alkyd Enamel: Two coats over galvanized-metal primer: MPI EXT 5.3B.
- C. Aluminum (Repairs only): *All aluminum components should arrive pre-finished. Should repairs / repainting be necessary, sand the finish down in the damaged area and use the following:*

1. Semigloss, Alkyd Enamel: One coat over quick-drying primer for aluminum: MPI EXT 5.4F.
- D. Dressed Lumber Trim:
 1. Semigloss, Alkyd: Two coats over alkyd primer: MPI EXT 6.3B.
- E. Plastic Trim:
 1. Semigloss Alkyd: One coat over solvent-based bonding primer: MPI EXT 6.8B.
- F. Stucco, Concrete, CMU or Brick Masonry to be painted:
 1. Semigloss 100% Acrylic: Two coats over alkali-resistant block filler / primer: MPI EXT 9.1J.

3.4 INTERIOR PAINT APPLICATION SCHEDULE

- A. Steel (raw, unprimed):
 1. Semigloss, Alkyd Enamel: Two coats over alkyd anticorrosive primer: MPI INT 5.1E.
- B. Steel (factory-primed):
 1. Semigloss, Alkyd Enamel: Two coats: MPI INT 5.1E.
- C. Galvanized Metal:
 1. Semigloss, Alkyd Enamel: Two coats over galvanized-metal primer: MPI INT 5.3C.
- D. Dressed Lumber (Painted):
 1. Semigloss, Alkyd: Two coats over alkyd primer: MPI INT 6.3B.
- E. Dressed Lumber (Varnish over Stained or Natural Surface):
 1. Semigloss, Alkyd Varnish: Two coats over alkyd sanding sealer: MPI INT 6.4D.
- F. Wood Panel-Products:
 1. Semigloss, Alkyd Varnish: Two coats over stain and alkyd sanding sealer: MPI INT 6.4D.
- G. Gypsum Board Walls:
 1. Eggshell Latex: Two coats over primer/sealer: MPI INT 9.2A.
- H. Gypsum Board Ceilings:
 1. Low-Sheen Latex: Two coats over primer/sealer: MPI INT 9.2A.

END OF SECTION 09 91 00

SECTION 10 14 00 - SIGNAGE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Traffic and Parking Signs, including Accessible Parking Signs, are not included in this Section, There is no site work in this Contract.
- B. Submittals: Product Data, Shop Drawings (including Font examples), Color & Finish Samples.
- C. Regulatory Requirements: Comply with accessibility provisions in the NC State Building Code and ICC/ANSI A117.1.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Castings: Alloy recommended by sign manufacturer for casting process used and for use and finish indicated.
- B. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher, with not less than the strength and durability of 5005-H15.
- C. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and finisher, with not less than the strength and durability properties of 6063-T5.
- D. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

2.2 EXTERIOR SIGNS

- A. Dimensional Characters for Exterior Sign: Cast-aluminum or cut-out aluminum plate characters welded to anchoring studs of like material.
 - 1. Character Sizes: 10” and 6” high, as indicated on New Storefront Elevation, Sheet A-3.1.
 - 2. Character Font: Serif style, Medium or Boldface, equivalent to “Goudy” or “Calisto”.
- B. Finish and Color: High-performance organic coating finish. Use manufacturer's standard 2-coat fluoropolymer (“Kynar 500” / “Hylar 5000”) system complying with AAMA 2605, with finish coats containing at least 70 percent polyvinylidene fluoride resin by weight.
 - 1. Color: As selected by Architect from manufacturer’s standard range.
 - 2. Finish Warranty: 10 years.

2.3 INTERIOR SIGNS

- A. Interior Panel Signs: Matte-finished opaque acrylic with molded or adhesively applied characters and pictograms with beveled edges and rounded corners.
1. Panel Sizes: As indicated on drawings and as required by the accessibility codes.
 2. Finishes and Colors: As selected from manufacturer's standard range.
 3. Minimum Letter Size: As required in ANSI A117.1, Table 703.2.4, "Visual Character Height".
 4. Pictographs: As indicated on drawings and as required by the accessibility codes.
 5. Braille: Grade 2 Braille shall be included on all signs, repeating the same message.
 6. Tactile Characters: All Characters, Pictographs and Grade 2 Braille shall be raised a minimum 1/32 inch (0.8 mm) above surface, with contrasting colors.
 7. Provide signs at all locations indicated on floor plans and interior elevations. Specific wording may be found on the plans & elevations.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate signs where indicated or directed by Architect. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.
- B. Exterior Wall-Mounted Signs:
1. Mechanical Fasteners: Sign letters shall have nonremovable, 3/4" maximum projecting height, threaded fasteners (studs).
 2. Sign letters shall be affixed to composite panels by setting the studs into pre-drilled holes in the insulated composite panels. Do not drill through entire thickness of panels. Set drill depth to maximum 3/4".
 3. Use anchoring adhesive compatible with plastic core of composite panels.
 4. Mount characters flush against surfaces of composite panels. Do not use sleeves or stand-offs.
- C. Interior Wall-Mounted Signs:
1. Silicone-Adhesive Mounting: For attaching interior panel signs to a variety of interior finish surfaces.
 2. Provide temporary support or supplementary attachment (example: removable tape) in order for the adhesive to set without sagging or movement of the sign.

END OF SECTION 10 14 00

10 28 00 – TOILET ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Toilet Accessories.
 - 2. High-Speed Electric Hand Dryers.
 - 3. Baby-Changing Station.
- B. Related Sections include the following:
 - 1. Division 10 Section "Toilet Compartments" for compartments and screens, including protective panels to screen lavatory drains & water supply fittings.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's cut sheets including installation details, fastening and mounting methods, specified options, and finishes for each type of accessory specified.
- B. Setting Templates/Drawings: For cutouts required in other work; include templates, substrate preparation instructions, and directions for preparing cutouts and installing anchors.

1.3 QUALITY ASSURANCE

- A. Source Limitations: Provide products of same manufacturer for each type of accessory unit and for units exposed to view in same areas, unless otherwise approved by Architect.
- B. Shipping, Handling & Storage: Ship & handle items in original protective packaging until installation. Store away from work areas to minimize damage. Set aside any damaged items.

1.5 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by disabled persons, proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices to be set into concrete or masonry, sufficiently in advance to prevent delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering accessories that may be incorporated into the Work include, but are not limited to, the following:
1. Toilet Tissue Dispenser (only one product meets Owner’s requirements):
 - a. Royce Rolls Ringer Company, <http://www.roycerolls.net>.
 2. Grab Bars, Mirrors, Soap Dispensers, Paper Towel Dispensers, etc.:
 - a. A & J Washroom Accessories, Inc.
 - b. American Specialties, Inc.
 - c. Bobrick Washroom Equipment, Inc.
 - d. Bradley Corporation.
 - e. General Accessory Manufacturing Co. (GAMCO).
 - f. McKinney/Parker Washroom Accessories Corp.
 3. Baby Changing Station:
 - a. Koala Bear Kare by JBJ Industries
 - b. American Infant Care Products
 - c. Rubbermaid
 - d. Four D, Inc.
- B. Products: Subject to compliance with requirements, provide products indicated for each designation in the Toilet and Bath Accessory Schedule and as shown on floor plans & toilet elevations.

2.2 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, with No. 4 finish (satin), in 0.0312-inch (0.8-mm) minimum nominal thickness, unless otherwise indicated.
- B. Mirror Glass: ASTM C 1036, Type I, Class 1, Quality q2, nominal 6.0 mm thick, with silvering, electroplated copper coating, and protective organic coating complying with FS DD-M-411.
- C. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- D. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper- and theft- resistant when exposed, and of galvanized steel when concealed.

2.3 FABRICATION

- A. Surface-Mounted Toilet Accessories: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible.
- B. Recessed Toilet Accessories: Unless otherwise indicated, fabricate units of all-welded construction, without mitered corners. Hang doors and access panels with full-length, stainless-steel hinge. Provide anchorage that is fully concealed when unit is closed.

- C. Framed Glass-Mirror Units: Fabricate frames for glass-mirror units to accommodate glass edge protection material. Provide mirror backing and support system that permits rigid, tamper-resistant glass installation and prevents moisture accumulation.
 - 1. Provide galvanized steel backing sheet, not less than 0.034 inch (0.85 mm) and full mirror size, with nonabsorptive filler material. Corrugated cardboard is not an acceptable filler material.
- D. Mirror-Unit Hangers: Provide mirror-unit mounting system that permits rigid, tamper- and theft-resistant installation, as follows:
 - 1. One-piece, galvanized steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
- E. Keys: Provide universal keys for staff access to accessories for servicing and resupplying. Provide minimum of 5 keys to Owner's Representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Secure mirrors to walls in concealed, tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb, and square at locations indicated, according to manufacturer's written instructions for substrate indicated.
- C. Install grab bars to withstand loading conditions specified by building and accessibility codes.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

3.3 TOILET AND BATH ACCESSORY SCHEDULE

- A. Paper Towel Dispenser:
 - 1. Type: "C-fold" or "Z-fold" dispenser with hinged front secured with tumbler lockset.
 - 2. Mounting: Surface mounted with concealed anchorage.
 - 3. Material: Stainless steel.
 - 4. Capacity: Designed for 500 standard paper towels.

- C. Toilet Tissue Dispenser:
1. Brand: "#TP-2" by Royce Rolls Ringer Company.
 2. Mounting: Surface mounted with exposed anchorage.
 3. Frame Material: 18 gauge, type 304 stainless steel.
 4. Spindle: 20-gauge, 1.125" diameter stainless steel tube.
 5. Security: Spindle end is bored to receive padlock (lock by Owner).
 6. Capacity: Designed for two standard rolls.
- D. Waste Receptacle : None (to be provided by Owner).
- E. Soap Dispenser:
1. Type: Liquid Soap dispenser with easy wide-handled pull- or push-pump action to meet accessibility requirements.
 2. Mounting: Surface mounted with concealed anchorage.
 3. Material: Stainless steel.
 4. Capacity: One U. S. pint.
- F. Grab Bars: Provide stainless-steel grab bars complying with the following:
1. Nominal Thickness: Minimum 0.05 inch.
 2. Mounting: Concealed, with manufacturer's standard flange covers.
 3. Gripping Surfaces: Smooth, satin finish.
 4. Outside Diameter: 1-1/2 inches (38 mm) for heavy-duty applications.
 5. Lengths: 18", 36" and 42", as indicated on drawings.
- F. Mirror Unit: Stainless-Steel, Channel-Framed Mirror. Fabricate frame from stainless-steel channels in manufacturer's standard satin or bright finish with square corners mitered to hairline joints and mechanically interlocked. Size as indicated on interior elevations.
- H. Underlavatory Guard: Covering for supply and drain piping assemblies intended for use at accessible lavatories to prevent contact abrasions and burns from piping.
The following product is the reference standard.
Equivalent products by other manufacturers will be accepted for submittal and review.
1. Truebro "Lav Shield" Model #2018, factory pre-cut to fit specific lavatory model.
TRUEBRO – an IPS Brand, IPS Corporation, Collierville, TN (800)340-5969, website:
<http://www.truebro.com>.
- I. Baby Changing Station: Molded plastic unit, fold-down action, with safety straps.

END OF SECTION 10 28 00

SECTION 113100 - RESIDENTIAL APPLIANCES**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Allowances: See Section 012000 "Price and Payment Procedures" for appliance allowances.
- B. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 RESIDENTIAL APPLIANCES

- A. Regulatory Requirements: Comply with the following:
 - 1. Labeling: Provide only appliances listed and labeled by a qualified testing agency.
- B. Electric Range (one required): 30-inch-wide, slide-in range with 4 burners and self-cleaning convection oven with broiler unit.
 - 1. Basis-of-Design Product: Whirlpool Model #: RY160LXTQ or a comparable product of one of the following:
 - a. Amana; a division of Whirlpool Corporation.
 - b. Electrolux Home Products (Frigidaire).
 - c. Fisher & Paykel.
 - d. General Electric Company (GE).
 - e. General Electric Company (Hotpoint).
 - f. Maytag; a division of Whirlpool Corporation.
 - g. Sears Brands LLC (Kenmore).
 - h. Whirlpool Corporation.
 - 2. Color: White.
 - 3. Number of burners: 4.
 - 4. Oven Capacity: 4.1 – 4.5 cu. ft.
 - 5. Important Feature: Front-mounted controls for accessibility.
- C. Combination Microwave Oven / Range Exhaust Hood (one required) : Undercabinet mounted microwave oven, 1.7-2.0 cu. ft. capacity, 900-1200 Watts, exhaust fan capacity: 220-300 CFM.
 - 1. Basis-of-Design Product: Maytag Model # MMV5208WW or a comparable product of one of the following:
 - a. Amana; a division of Whirlpool Corporation.
 - b. Electrolux Home Products (Frigidaire).
 - c. Fisher & Paykel.
 - d. General Electric Company (GE).
 - e. General Electric Company (Hotpoint).
 - f. Maytag; a division of Whirlpool Corporation.
 - g. Sears Brands LLC (Kenmore).

- h. Whirlpool Corporation.
 - 2. Color: White.
 - 3. Options: Tempered glass turntable.
- D. Refrigerator/Freezer (two required): Freestanding, frost-free or cycle-defrost, top-mounted single-door refrigerator with bottom-mounted freezer drawer, polystyrene or ABS thermoplastic-copolymer interior cabinet liners.
- 1. Basis-of-Design Product: Whirlpool Gold Model # GB2FHDXWQ (21.9 cu. ft.) or a comparable product of one of the following:
 - a. Amana; a division of Whirlpool Corporation.
 - b. Electrolux Home Products (Frigidaire).
 - c. Fisher & Paykel.
 - d. General Electric Company (GE).
 - e. General Electric Company (Hotpoint).
 - f. Maytag; a division of Whirlpool Corporation.
 - g. Sears Brands LLC (Kenmore).
 - h. Whirlpool Corporation.
 - 2. Color: White
 - 3. Fresh Food Compartment Volume: 15 - 16 cu. ft.
 - 4. Freezer Compartment Volume: 5.5 – 6.5 cu. ft. minimum.
 - 5. Shelves: Adjustable glass shelves.
 - 6. Options: Icemaker.
 - 7. Energy Performance: Provide appliances that qualify for the EPA/DOE ENERGY STAR product labeling program.
- E. Accessories: Provide all items necessary for a complete installation, including but not limited to: power cords, icemaker water lines, etc.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Built-in Appliances: Securely anchor to supporting cabinetry or countertops with concealed fasteners. Verify that clearances are adequate for proper functioning and rough openings are completely concealed.
- B. Freestanding Appliances: Place in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment. Install cords & tubing.
- C. Test each item of residential appliances to verify proper operation. Make necessary adjustments.
- D. Verify that accessories required have been furnished and installed.
- E. Remove all packaging and shipping restraints. Deliver user's manuals to Owner's Rep.

END OF SECTION 113100

SECTION 12 21 00 - WINDOW BLINDS**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Scope: In the renovated southern end of the building, provide new window blinds as follows:
 - 1. Four (4) type “A” windows (approximate size: 48” W x 56” H)
 - 2. Five (5) type “B” windows (approximate size: 38” W x 38” H).
- B. Submittals: Product Data and Color Swatches

PART 2 - PRODUCTS

2.1 WINDOW BLINDS

- A. Manufacturers: One of the following:
 - 1. Hunter Douglas Contract.
 - 2. Levolor Contract; a Newell Rubbermaid company.
 - 3. Bali / Springs Window Fashions.
 - 4. American Drapery.
- B. Provide blinds passing flame-resistance testing according to NFPA 701.
- C. Fabrication: Comply with WCMA A 100.1 unless otherwise indicated.
 - 1. Provide color-coated finish on exposed metal parts unless otherwise indicated.
 - 2. Fabricate concealed components from non-corrodible or corrosion-resistant-coated materials.
 - 3. Provide permanently lubricated moving parts.

2.2 HORIZONTAL BLIND

- A. Slats: Aluminum, antistatic polyester coated.
- B. Slat Width: 1 inch
- C. Slat Length: Overlap window frames and come within 3/8” of drywall at sides of window recess.
- D. Headrail: Formed steel or extruded aluminum; long edges returned or rolled; fully enclosing operating mechanisms on three sides and ends.
- E. Tilt Operation: Manual with cord.
- F. Valance: Two slats.

- G. Mounting: Ceiling or End Brackets.
- H. Colors, Textures, Patterns, and Gloss: As selected from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install blinds level, plumb, and located not closer than 1 inch to interior face of glass.
 - 1. Location: Install headrail against drywall at top (ceiling) of window recess, within 1” of the room side of the window frame.
- B. Adjust window blinds to operate smoothly and easily throughout entire operational range.
- C. Leave control cords long for high type “B” windows (10’-0” head height).

END OF SECTION 122100

SECTION 12 22 00 - CURTAINS AND DRAPES**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Scope of Work: Provide new Cubicle Curtain & Track system to serve as a privacy curtain at the Shower / Dressing Area of Men's Toilet Room.
- B. Submittals: Product Data and Fabric Color Samples.
- C. Performance Criteria: Provide assurance through fabric tags, markings or letter of certification that curtain and drape fabrics have passed flame-resistance testing according to NFPA 701.

PART 2 - PRODUCTS

2.1 CURTAIN TRACK SYSTEM

- A. Manufacturers of products that meet project requirements include but are not limited to:
 - 1. Imperial Fastener (*Reference standard. Descriptions & model numbers below are from Imperial Fastener*)
 - 2. American Drapery
 - 3. Construction Specialties / General Cubicle
 - 4. IPC / Inpro Corporation
- B. Model: #IFC-98.
- C. Construction: Extruded 6063-T5 aluminum, 1 3/8" x 3/4" by .058" wall thickness, one piece.
- D. Finish: Electrostatic white paint finish.
- E. Mounting: Surface mounted to ceiling or head of opening.
- F. Operation: Manual.
- G. Draw: One way, both right & left.
- H. Accessories: Fabricate splices, end caps, and snap-outs from the same material and with the same finish as track.
- I. End Stop: Removable with carrier hook.
- J. Carriers: #IFC-100, two wheeled nylon rollers with steel bead chain and hard aluminum hook, quantity 2.2 per foot.

2.2 CURTAINS & DRAPERIES

- A. Manufacturers of products that meet project requirements include but are not limited to:
 - 1. Imperial Fastener (*Reference standard. Descriptions & model numbers below are from Imperial Fastener*)
 - 2. American Drapery
 - 3. Construction Specialties / General Cubicle
 - 4. IPC / Inpro Corporation
- B. Mesh Top Section: 20” wide, No. 50 (1/2” Hole) Nylon Mesh.
 - 1. Mesh color: White.
- C. Curtain Fabric: Nylon, Antimicrobial Treated
 - 1. Manufacturer: Imperial Fastener Company.
 - 2. Designation: Moderate-priced, quick-ship range.
 - 3. Pattern: Tiffany.
 - 4. Color: To be determined from submitted samples.
 - 5. Fiber Content: To be determined from submitted samples.
 - 6. Textile Treatments: Stain repellent, Flame retardant, and Antimicrobial.

2.3 CURTAIN & DRAPERY FABRICATION

- A. Width: To provide fullness in the appearance of the curtain, add 25 percent to the measured width of the opening to calculate the finished width of the curtain.
- B. Length: Equal to floor-to-ceiling height minus 20 inches from finished ceiling at top, and minus 6 inches distance above the finished floor at bottom.
- C. Mesh Top: Double lock stitched to top of curtain fabric, with a 1/2 inch wide triple thick top seam. Mesh to have a 1-1/4 inch 100% flame resistant polyester tape double lock stitched into top hem for secure machining of grommets.
- D. Top Hems: Triple thickness, 1-1/2 inch wide, double locked stitched.
- E. Side Hems: Double thickness, 1/2 inch wide, single lock stitched.
- F. Vertical Seams: Not less than 1/2” wide, double turned and double-stitched
- G. Bottom Hems: Triple thickness, 1-1/2 inch wide, double locked stitched.
- H. Curtain Grommets: Two-piece, rolled-edge, rustproof aluminum; spaced not more than 6 inches o.c.; machined into top hem.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install track systems level and plumb, and at height and location in relation to openings as indicated on Drawings.
- B. Hang draperies and test for smooth operation.

END OF SECTION 12 22 00

SECTION 12 90 00 - FURNITURE**PART 1 - GENERAL**

1.1 SECTION REQUIREMENTS

- A. Scope: Provide furniture items as follows:
 - 1. One (1) Teak wood bench for Men's Dressing / Shower Area.
- B. Submittals: Manufacturer's Data for product confirmation.

PART 2 - PRODUCTS

2.1 BENCH

- A. Vendor/Manufacturer:
 - 1. Westminster Teak, 7556 Grovewood Loop, Floral City, Florida 34436
<http://www.westminsterteak.com/PID18603/Teak-Shower-Bench-Seat>
888-592-8325
- B. Manufacturer's Model Number: 18603.
- C. Size: 24" Long x 17.3" Wide x 15.75" High.
- D. Weight Bearing Capacity (Seated Position): 325 Pounds.
- E. Material: Premium quality, straight-grained, knot-free teak wood from renewable, certified teak plantations.
- F. Factory Finish: None.
- G. Field Finish: Solvent-free, non-VOC, water-based "Golden Care Teak Protector" (1 Liter bottle with application cloth included) –Product # 30101 from Westminster Teak. Apply in thin coats and remove excess w/ cloth.

PART 3 - EXECUTION

3.1 HANDLING, DELIVERY & INSTALLATION

- A. Upon delivery, cover and store the furniture in a protected location in order to prevent any damage prior to set-up.
- B. Do not uncrate, field finish, or install the Teak Bench until just prior to Final Inspection.

END OF SECTION 12 90 00