

**Procurement Office  
PO Box 157  
31 Klein Street, Room 208  
Walterboro, SC 29488  
Phone: (843) 782-0504**

## **FR-17 FIRE/RESCUE HEADQUARTERS EXPANSION**

### **Mandatory Pre-bid Meeting**

Thursday, September 19, 2013 at 10:00AM  
113 Mable T. Willis Blvd, Walterboro, SC 29488

Bids will be accepted until 11:00AM,  
Tuesday, October 22, 2013

Bids will be opened in public at  
Council Chambers 109 Benson Street  
Walterboro, SC 29488

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## SECTION 00200 - INSTRUCTIONS TO BIDDERS

- A. Project Name and Location: FR-17 Fire And Rescue Headquarters Expansion -Colleton County S.C.
1. This project is a single story with mezzanine, pre-engineered metal building. There are two septic tank and drainfields that shall be removed included in the scope of work.
  2. New electrical service and generator are included. Coordinate with the owner the change over of service.
  3. The existing building as well as the addition shall be on new sewer service. The existing sewer shall be tied in before demolition of the existing septic tanks and drainfields. There are two septic tanks and drainfields, one where the new addition is located and one near the new electrical service. Coordinate with owner the service change over.
  4. The storage and workroom bay area shall have painted fire treated plywood walls extending to eave height. Overhead sectional doors are operated by remotes. All exterior door hardware shall have keypad lockset systems. Site work shall included clearing, grubbing, fill, retention, parking, roadways and sewer tap. The drive and parking area shall be concrete. Site accessories shall include signage as indicated on the drawings. All DOT, OCRM, SCDHEC permits have been granted. The contractor is to supply the construction documents for the Pre-engineered building based on his selected manufacture. The contractor shall provide from the building manufacture and engineered sealed from the State of South Carolina a set of documents that shall meet all required codes and regulations as called for in the plans. Building colors shall be selected from standard color list, but the roof shall be galvalume. There shall be no penetrations in the roof, including vent piping.
  5. **Included in Scope of Work is a new drive from HWY 63 as documented in the civil documents.**
  6. **The Contractor shall pay for all Building Permit Fees.**
  7. **The Contractor shall pay for soil compaction reports of fill within the removed septic tank and drainfield areas.**
- B. Bidding Documents: This document contains instructions to bidders for the project named above. This bidding document is not part of the Contract Documents, unless specifically referenced in the Owner/Contractor Agreement.
- C. Bid Documents: To obtain bidding documents contact:
1. Colleton County
  2. Kaye Syfrett
  3. PO Box 157
  4. Walterboro, S.C. 29488
  5. 843-782-0504
  6. ksyfrett@colletoncounty.org
- D. Documents: Drawings can be downloaded from: [www.colletoncounty.org](http://www.colletoncounty.org)
- E. **Mandatory Pre- Bid:** Thursday, September 19, 2013 at 10:00am, 113 Mable T Willis Blvd, Walterboro, SC 29488 for the General Contractors. Sub-Contractors are not required to attend.

- F. Submission of Bids: Submit Bid Form before the time and date below. Late submissions will not be considered. Submit bids in sealed and labeled envelopes with the project name and bidder's name on the outside of the envelope. Mark the envelope: "Bid Enclosed - Do Not Open."

Submit Bid To: Purchasing Department  
ATTN: Kaye B Syfrett  
PO Box 157  
Walterboro, SC 29488

HAND CARRY TO:  
Purchasing Department, Room 208  
Harrelson Building, 31 Klein Street  
Walterboro, South Carolina 29488

**Bids will be accepted until 11:00AM Tuesday, October 22, 2013**

Bid Opening: Bids will be opened in public. Bidders may be present. Bids may not be withdrawn for 30 calendar days after receipt of bids. Announcements of bid results will be made at bid opening and verified within 10 days.

Bid Opening at : Council Chambers located at 109 Benson Street, Walterboro.

- G. Bid Security: A bid security is required.
- H. Bonds: A Performance and Payment Bond is required. Each bidder shall submit evidence of bondability for the entire value of the work. Bonds must be executed by a surety company licensed to do business at the location of the project. Bond form shall be AIA Document A312.
- I. Modifications: Oral, fax or email modifications to bids will not be considered.
- J. Acceptance of Bids: The Owner reserves the right to reject or accept any or all bids or to enter into negotiations with any bidder. The Owner reserves the right to waive any alleged breach of technicality.
- K. Modifications: The Owner reserves the right to modify the Contract Documents and rebid the project, if necessary, to meet Owner's budgetary requirements.
- L. **Questions**: During the bidding period, submit questions to the person named below. Questions will be answered in the form of an addendum and posted on the County website.
1. Bill Chambers
  2. R. W. Chambers, Architect
  3. P O Box 1181
  4. Beaufort, SC 29901
  5. 843-379-1000
  6. Email: [rwchambers@hargray.com](mailto:rwchambers@hargray.com)

- M. Site Visit: A site visit is required and encouraged. Contact the person named above to arrange to visit the site.

#### SECTION 00230 – LIQUIDATED DAMAGES

- A. Liquidated damages is the agreed by the Contractor and Owner to Reimburse the Owner for damages due to failure of the Contractor to complete the work in accord with the project requirements and Construction Schedule.
  - 1. Should the Contractor neglect or refuse to achieve substantial completion on or before the day as Agreed in the Construction schedule they, shall pay the owner liquidated damages in the amount of: **\$300.00 per day for each and every calendar day that the work is not finally complete.**

The Contract Agreed upon time shall be **220 days** for final completion.

END OF DOCUMENT

## SECTION 00410 - BID FORMS

- A. Submission of Bids: Submit bids in compliance with Document 00 21 00 - Instructions to Bidders. Fill in blanks. The Owner reserves the right to reject incomplete bid forms. **Complete the Attached Bid Form Schedule of Value Sheet, attached in addition to this form.**
- B. Bidding Documents: This Bidding document is not part of the Contract Documents, unless specifically referenced in the Owner/Contractor Agreement.
- C. Project Name: \_\_\_\_\_
- D. Project Owner: \_\_\_\_\_
- E. Name of Bidder: \_\_\_\_\_
- F. Base Bid: The Bidder proposes to perform all of the Work required by the Contract Documents for the amount of: (Fill in amount in words and numbers.)
1. \$ \_\_\_\_\_
- G. Bonds: If the Bidder is required to furnish a Performance Bond and Payment Bond (AIA A312) for the entire value of the Work, add the following amount to the base bid amount:
1. \$ \_\_\_\_\_
- H. Alternates: None
- I. Time: The Bidder proposes the following dates
1. TIME ALLOWED IS 220 DAYS FROM RECEIPT OF BUILDING PERMIT.
- J. Submission of Bid Form: By submitting this Bid Form, the Bidder certifies that Bidder has visited the project site, is aware of existing conditions which affect the work, and has reviewed the Contract Documents, including the following Addenda:
1. (List addenda received)
- K. Signature: Signed and sealed (Enter date, Bidder's signature, title, name of firm, legal business address, phone and fax numbers, and email address):
1. Signature: \_\_\_\_\_
  2. Name and Title: \_\_\_\_\_
  3. Firm: \_\_\_\_\_
  4. Address: \_\_\_\_\_
  5. City, State, ZIP: \_\_\_\_\_
  6. Telephone: \_\_\_\_\_
  7. Fax: \_\_\_\_\_
  8. Email: \_\_\_\_\_

- L. Project Manager: Bidder's Project Manager to Be Assigned to the Project (name and brief summary of experience):
  - 1.
- M. Subcontractors: Bidder's List of Proposed Major Subcontractors (list):
  - 1.
  - 2.
- N. Complete the Bid Form Schedule of Value Sheet that is Attachment 1

#### SECTION 00520 - AGREEMENT FORMS

- A. Owner-Contractor Agreement Form: AIA A105, Owner-Contractor Agreement Form - Small Projects and A205 General Conditions for Small Project.
- B. Agreement Forms: Agreement forms are available from the American Institute of Architects, Washington, D.C., 202-626-7300. Agreement Forms will be prepared and approved for use on the project by the Owner in consultation with an attorney.

#### SECTION 00610 - BOND FORMS

- C. Bid Bond: AIA A310, Bid Bond.
- D. Performance Bond and Payment Bond: AIA A312, Performance Bond and Payment Bond.
- E. Bond Forms: Bond forms are available from the American Institute of Architects, Washington, D.C., 202-626-7300. Bond Forms will be prepared and approved for use on the project by the Owner in consultation with an attorney.

#### DOCUMENT 00651 - INDEMNITY PROVISION

- A. Contractor (or lessee or vendor) assumes entire responsibility and liability for losses, expenses, demands and claims in connection with or arising out of any injury, or alleged injury (including death) to any person, or alleged damage, to property of County or others sustained or alleged to have been sustained in connection with or to have arisen out of or resulting from the performance of the work/service by the contractor, his sub-contractors, agents, and employees, including losses, expenses or damages sustained by the County, and agrees to indemnify and hold harmless the County, its officials, employees or volunteers from any and all such losses, expenses against them, or any of them, based on any such alleged injury or damage, and to pay all damages, cost and expenses in connections therewith or resulting therefrom. As an integral part of this agreement, contractor agrees to purchase and maintain during the life of this contract, contractual liability insurance in the amount required in the general liability insurance requirements and to furnish proper evidence thereof.



## DOCUMENT 00700 - GENERAL CONDITIONS

- A. General Conditions: AIA 205 General Conditions for Small Projects.
- B. General Conditions Forms: General Conditions are available from the American Institute of Architects, Washington, D.C., 202-626-7300. General Conditions will be prepared and approved for use on the project by the Owner in consultation with an attorney.

## SECTION 01100 - SUMMARY

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Project Identification: FR-17 FIRE/RESCUE HEADQUARTERS EXPANSION
- B. Project Summary: NEW PRE-ENGINEERED FIRE/RESCUE ADDITION
- C. Particular Project Requirements:
  - 1. Contractor shall provide the design of the Pre-engineered building by a registered SC engineer, the documents are a basis of design.
  - 2. Contractor shall supply the County and Architect with the Loads required to verify the foundation design.
  - 3. New electrical service with generator.
  - 4. New sewer service and tie in from existing building.
  - 5. New civil swale.
- D. Permits and Fees: Apply for, obtain, and pay for permits, fees, and utility company backcharges required to perform the work. Submit copies to Colleton County. Currently, DOT, DHEC, OCRM have been obtained.
- E. Codes: Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices and similar communications to Architect.
- F. Dimensions: Verify dimensions indicated on drawings with field dimensions before fabrication or ordering of materials. Do not scale drawings.
- G. Existing Conditions: Notify Architect of existing conditions differing from those indicated on the drawings. Do not remove or alter structural components without prior written approval.
- H. Coordination:
  - 1. Coordinate the work of all trades.
  - 2. Prepare coordination drawings for areas above ceilings where close tolerances are required

between building elements and mechanical and electrical work.

3. Verify location of utilities and existing conditions.

I. Installation Requirements, General:

1. Take field measurements prior to fabrication where practical. Forms to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.
2. Install materials in exact accordance with manufacturer's instructions and approved submittals.
3. Install materials in proper relation with adjacent construction and with proper appearance.
4. Restore units damaged during installation. Replace units which cannot be restored at no additional expense to the Owner.
5. Refer to additional installation requirements and tolerances specified under individual specification sections.

J. Limit of Use: No Restrictions.

K. Existing Construction: Provide proper silt protection from DOT R.O.W and Wetlands:

L. Intent: Drawings and specifications are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth but which is reasonable implied or necessary for proper performance of the project shall be included.

M. Writing Style: Specifications are written in the imperative mode. Except where specifically intended otherwise, the subject of all imperative statements is the Contractor. For example, 'Provide tile' means 'Contractor shall provide tile.'

PART 2 PRODUCTS - NOT APPLICABLE TO THIS SECTION

PART 3 EXECUTION - NOT APPLICABLE TO THIS SECTION

SECTION 01300 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Administration of Contract: Provide administrative requirements for the proper coordination and completion of work including the following:
1. Supervisory personnel.
  2. Preconstruction conference.
  3. Project meetings, minimum of one per month; prepare and distribute minutes.
- B. Reports: Submit weekly and special reports.

- C. Work Schedule: Submit progress schedule, updated monthly.
- D. Submittal Schedule: Prepare submittal schedule; coordinate with progress schedule.
- E. Schedule of Values: Submit schedule of values, the bid form is the schedule of value.
- F. Schedule of Tests: Submit schedule of required tests including payment and responsibility.
- G. Perform Surveys: Lay out the work and verifying locations during construction. Perform final site survey.
- H. Emergency Contacts: Submit and post a list of emergency telephone numbers and address for individuals to be contacted in case of emergency.
- I. Record Documents: Submit record drawings and specifications; to be maintained and annotated by Contractor as work progresses.

## 1.2 SUBMITTALS

- A. Types of Submittals: Provide types of submittals listed in individual sections and number of copies required below.
  - 1. Shop drawings, reviewed and annotated by the Contractor - 4 copies.
  - 2. Product data - 2 copies.
  - 3. Samples - 2, plus extra samples as required to indicate range of color, finish, and texture to be expected.
  - 4. Inspection and test reports - 2 copies.
  - 5. Warranties - 2 copies.
  - 6. Survey data - 2 copies.
  - 7. Closeout submittals - 2 copies.
- B. Submittal Procedures: Comply with project format for submittals. Comply with submittal procedures established by Architect including Architect's submittal and shop drawing stamp. Provide required resubmittals if original submittals are not approved. Provide distribution of approved copies including modifications after submittals have been approved.
- C. Samples and Shop Drawings: Samples and shop drawings shall be prepared specifically for this project. Shop drawings shall include dimensions and details, including adjacent construction and related work. Note special coordination required. Note any deviations from requirements of the Contract Documents.
- D. Warranties: Provide warranties as specified; warranties shall not limit length of time for remedy of damages Owner may have by legal statute. Contractor, supplier or installer responsible for performance of warranty shall sign warranties.

PART 2 PRODUCTS - NOT APPLICABLE TO THIS SECTION

PART 3 EXECUTION - NOT APPLICABLE TO THIS SECTION

## SECTION 01400 - QUALITY REQUIREMENTS

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Quality Monitoring: Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality. Perform quality control procedures and inspections during installation.
- B. Standards: Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Tolerances: Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate. Comply with manufacturers' tolerances.
- D. Reference Standards: For products or workmanship specified by association, trades, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- E. Manufacturer's Field Services: When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to perform the following as applicable, and to initiate instructions when necessary.
  - 1. Observe site conditions.
  - 2. Conditions of surfaces and installation.
  - 3. Quality of workmanship.
  - 4. Start-up of equipment.
  - 5. Test, adjust and balance of equipment.

PART 2 PRODUCTS - NOT APPLICABLE TO THIS SECTION

PART 3 EXECUTION - NOT APPLICABLE TO THIS SECTION

## SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

## PART 1 GENERAL

### 1.1 SUMMARY

- A. Temporary Services: Provide temporary services and utilities, including payment of utility costs including the following.
  - 1. Water (potable and non-potable).
  - 2. Lighting and power.
  - 3. Metering.
  - 4. Telephone.
  - 5. Toilet facilities.
  - 6. Materials storage.
- B. Construction Facilities: Provide construction facilities, including payment of utility costs needed to complete the project.
- C. Security and Protection: Provide security and protection requirements including the following.
  - 1. Fire extinguishers.
  - 2. Site enclosure fence, barricades, warning signs, and lights.
  - 3. Building enclosure and lock-up.
  - 4. Environmental protection.
  - 5. Pest control during and at the end of construction.
- D. Personnel Support: Provide personnel support facilities including the following.
  - 1. Contractor's field office or area.
  - 2. Sanitary facilities.
  - 3. Drinking water.
  - 4. Project identification sign.
  - 5. Cleaning.

## SECTION 01600 - PRODUCT REQUIREMENTS

## PART 1 GENERAL

### 1.1 SUMMARY

- A. Manufacturers: Provide products from one manufacturer for each type or kind as applicable. Provide secondary materials as acceptable to manufacturers of primary materials.
- B. Product Selection: Provide products selected or equal approved by Colleton County. Products submitted for substitution shall be submitted with complete documentation, and include construction costs of substitution including related work.
- C. Substitutions: Request for substitution must be in writing and approved by Colleton County.

Conditions for substitution include:

1. An "or equal" phrase in the specifications.
2. Specified material cannot be coordinated with other work.
3. Specified material is not acceptable to authorities having jurisdiction.
4. Substantial advantage is offered to the Owner in terms of cost, time, or other valuable consideration.

- D. Substitution Requests: Substitutions shall be submitted prior to award of contract, unless otherwise acceptable. Substitutions not approved by Colleton County are the responsibility of the Contractor and the Contractor shall install the specified project at no additional cost to Colleton County. Approval of shop drawings, product data, or samples containing substitutions is not an approval of a substitution unless an item is clearly presented as a substitution at the time of submittal.

## PART 2 PRODUCTS - NOT APPLICABLE TO THIS SECTION

## PART 3 EXECUTION - NOT APPLICABLE TO THIS SECTION

## SECTION 01700 - EXECUTION AND CLOSEOUT REQUIREMENTS

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Substantial Completion: The following are prerequisites to substantial completion. Provide the following:
1. Punch list prepared by Contractor and subcontractors as applicable.
  2. Supporting documentation.
  3. Warranties.
  4. Certifications.
  5. Occupancy permit.
  6. Start-up and testing of building systems.
  7. Change over of locks.
  8. Meter readings.
- B. Final Acceptance: Provide the following prerequisites to final acceptance:
1. Final payment request with supporting affidavits.
  2. Completed punch list.
- C. As-Built Drawings: Provide a marked-up set of drawings including changes, which occurred during construction.
- D. Project Closeout: Provide the following during project closeout:
1. Submission of record documents.
  2. Submission of maintenance manuals.

3. Training and turnover to Owner's personnel.
4. Final cleaning and touch-up. Project shall be ready for Occupancy.
5. Removal of temporary facilities.

## PART 2 PRODUCTS - NOT APPLICABLE TO THIS SECTION

## PART 3 EXECUTION

### 3.1 CUTTING AND PATCHING

- A. Cutting and Patching: Provide cutting and patching work to properly complete the work of the project, complying with project requirements for:
  1. Structural work.
  2. Mechanical/electrical systems.
  3. Visual requirements, including detailing and tolerances.
  4. Operational and safety limitations.
  5. Fire resistance ratings.
  6. Inspection, preparation, and performance.
  7. Cleaning.
- B. Means and Methods: Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decrease energy performance, increase maintenance, decrease operational life, or decrease safety performance.
- C. Inspection: Inspect conditions prior to work to identify scope and type of work required. Protect adjacent work. Notify Owner of work requiring interruption to building services or Owner's operations.
- D. Performance of Operations: Perform work with workmen skilled in the trades involved. Prepare sample area of each type of work for approval.
- E. Cutting: Use cutting tools, not chopping tools. Make neat holes. Minimize damage to adjacent work. Inspect for concealed utilities and structure before cutting.
- F. Patching: Make patches, seams, and joints durable and inconspicuous. Comply with tolerances for new work.
- G. Cleaning: Clean work area and areas affected by cutting and patching operations.

## SECTION 033000 - CAST-IN-PLACE CONCRETE

## PART 1 GENERAL

### 1.1 SECTION REQUIREMENTS

- A. Submittals: **Concrete mix designs and submittals required by ACI 301.**
- B. Ready-Mixed Concrete Producer Qualifications: ASTM C 94/C 94M.
- C. Comply with 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. Portland cement: ASTM C 150, Type I.
- D. Aggregates: ASTM C 33 uniformly graded.
- E. Air-Entraining Admixture: ASTM C 260.
- F. Chemical Admixtures: ASTM C 494, **water reducing and retarding**. Do not use calcium chloride or admixtures containing calcium chloride.
- G. Vapor Retarder: **Clear 6-mil- thick polyethylene sheet.**
- H. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.
- I. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

### 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: **3000 psi** at 28 days.
  - 2) Maximum Water-Cementitious Materials Ratio: **0.45**.
  - 3) Slump Limit: **4 inches**, plus or minus **1 inch**.  
Air Content: Maintain within range permitted by ACI 301. Do not allow air content of floor slabs to receive troweled finishes to exceed 3 percent.



- C. Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M.
  - 1) When air temperature is above 90 deg F, 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 sub grade, 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. Install full-depth joint-filler strips at isolation joints.
- 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, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:
  - 1) Troweled finish for floor surfaces and floors to receive floor coverings, paint Nonslip-broom finishes to exterior concrete platforms, steps, and ramps.
- I. Cure formed surfaces by moist curing for at least seven days.
- J. Begin curing concrete slabs after finishing. **Keep concrete continuously moist for at least three days.**
- K. Owner will engage a testing agency to perform field tests and to submit test reports.
- L. Protect concrete from damage. Repair surface defects in formed concrete and slabs.
- M. Finish edges of walks and exterior slabs with the radius edging tool.

## SECTION 042000 - UNIT MASONRY

## PART 1- GENERAL

### 1.1 SECTION REQUIREMENTS

- A. Submittals:
  - 1) Samples for **decorative concrete masonry units to match existing** . Paint on CMU.
  - 2) Material Certificates: For each type of product indicated. Include statements of material properties indicating compliance with requirements.
- B. Comply with ACI 530.1/ASCE 6/TMS 602.
- C. Sample Panels: Construct a sample wall panel approximately **48 inches** long by **48 inches** high to demonstrate aesthetic effects and set quality standards for materials and execution. Sample can be finish wall system, subject to approval.

## PART 2 - PRODUCTS

### 2.1 MASONRY UNITS

- A. Decorative Concrete Masonry Units: **ASTM C 90**; Weight Classification, **Normal Weight**.
  - 1) Finish: Exposed faces with **ribbed to match existing** finish and Smooth Face finish.
  - 2) Integral Water Repellent: **Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Dry-Block or Approved Equal**.
  - 3) Special shapes for, corners, jambs, sash, control joints, and other special conditions.
  - 4) Smooth CMU at openings at top of walls.

### 2.2 MORTAR AND GROUT

- A. Mortar: **ASTM C 270**, proportion specification.
  - 1) Do not use calcium chloride in mortar.
  - 2) For masonry below grade or in contact with earth, use Type **S**.
  - 3) For reinforced masonry, use Type **S**.
  - 4) For exterior, above-grade, non-load-bearing walls, and for other applications where another type is not indicated, use Type **N**.
  - 5) Colored Mortar: For **decorative concrete masonry units**, use colored cement or cement-lime mix of color selected.
  - 6) Water-Repellent Additive: For mortar used with concrete masonry units made with integral water repellent, use product recommended by manufacturer of units.
- B. Grout: **ASTM C 476** with a slump of **8 to 11 inches** (200 to 280 mm).

### 2.3 REINFORCEMENT, TIES, AND ANCHORS

- A. Steel Reinforcing Bars: ASTM A 615/A 615M, **Grade 60** (Grade 400).

B. Joint Reinforcement: **ASTM A 951.**

- 1) Coating: **Hot-dip galvanized at both interior and exterior walls.**
- 2) Wire Diameter for Side Rods: **W1.7 or 0.148 inch (3.8 mm).**
- 3) Wire Diameter for Cross Rods: **W1.7 or 0.148 inch (3.8 mm).**
- 4) For single-Wythe masonry, provide either ladder design or truss design.

2.4 EMBEDDED FLASHING MATERIALS

- A. Rubberized Asphalt Sheet Flashing: Pliable and highly adhesive rubberized asphalt compound, **26 mils (0.7 mm)** thick, bonded to a polyethylene film, **4 mils (0.1 mm)** thick, to produce an overall thickness of **30 mils (0.8 mm)**.

2.5 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded strips complying with ASTM D 1056, Grade 2A1.
- B. Acidic Masonry Cleaner: Product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cut masonry units with saw. Install with cut surfaces and, where possible, cut edges concealed.
- B. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.
- C. Stopping and Resuming Work: Rack back units; do not tooth.
- D. Fill cores in hollow concrete masonry units with grout **24 inches (600 mm)** under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.
- E. Tool exposed joints slightly concave when thumbprint hard, unless otherwise indicated.
- F. Keep cavities clean of mortar droppings and other materials during construction.

3.2 FLASHING AND WEEP HOLES

- A. Install embedded flashing in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.

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) Wet wall surfaces with water before applying acidic cleaner, then remove cleaner promptly by rinsing thoroughly with clear water.
  - 2) Clean masonry with an acidic cleaner applied according to manufacturer's written instructions.

## SECTION 05 40 00

### COLD-FORMED METAL FRAMING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Provide cold-formed metal framing.

##### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.
  - 1. Shop drawings shall be prepared and stamped by a qualified engineer licensed in the jurisdiction of the project.
- C. Engineering Certification: Submit for approval engineering certification of deflection criteria.

##### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Standards: AISI, Specification for Design of Cold-Formed Steel Structural Members.
- C. Deflection Criteria for Exterior Masonry Veneer: L/600.
- D. Fabrication Tolerances: 1/8 inch in 10 feet.

- E. Erection Tolerances: 1/16 inch from true position.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### A. Cold-Formed Metal Framing:

1. Manufacturers: Aegis Metal Framing LLC; Alpine / TrusSteel; CEMCO / California Expanded Metal Products Co.; CLARKWESTERN Building Systems; Dietrich Metal Framing, Inc.; MARINO; NUCONSTEEL, A NUCOR Company; or approved equal.
2. Application: Exterior loadbearing steel-stud walls.
3. Application: Interior loadbearing steel-stud walls.
4. Application: Exterior nonloadbearing steel-stud curtain walls.
5. Application: Steel joists.
6. Application: Steel trusses.
7. Wall Framing: C-shaped loadbearing steel studs.
8. Joist Framing: C-shaped loadbearing steel joists.
9. Units 16 gauge (.0598 inch) and heavier: ASTM A 653, yield point 50,000.
10. Units 18 gauge (.0358 inch): ASTM A 653, yield point 37,000 psi.
11. Units 20 gauge (.0329 inch): ASTM A 653, yield point 33,000 psi.
12. Finish: Galvanized, ASTM A 653, G60.
13. Framing Accessories:
  - a. Supplementary framing.
  - b. Bracing, bridging, and solid blocking.
  - c. Web stiffeners.
  - d. Gusset plates.
  - e. Deflection track and vertical side clips.
  - f. Stud kickers and girts.
  - g. Joist hangers and end closures.
  - h. Reinforcement plates.
  - i. Anchors, clips, and fasteners.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections.
- B. Comply with requirements of ASTM C 1007 for installation of steel studs and accessories and Metal Lath/Steel Framing Association Lightweight Steel Framing Systems Manual.
- C. Restore damaged components. Protect work from damage.

## SECTION 05 51 00

## METAL STAIRS

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Provide metal stair and landing systems. HEIGHT IS 10'-5 3/4". CONTRACTOR TO VERIFY.

#### 1.2 SUBMITTALS

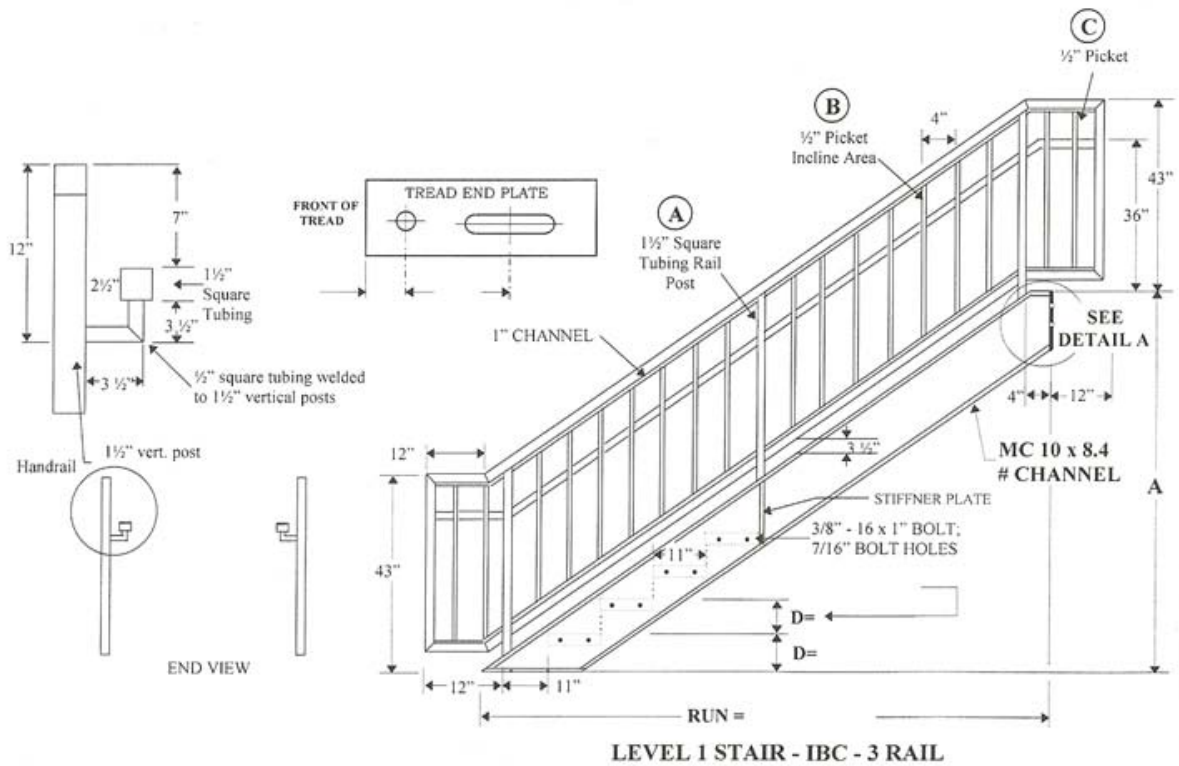
- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.
  - 1. Shop drawings shall be prepared and stamped by a qualified engineer licensed in the jurisdiction of the project.

#### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Structural Performance: In accordance with IBC 2012 Building Code.

### PART 2 PRODUCTS

END OF DOCUMENT



1. A= 10'-4"-verify in field.

## 2.2 MATERIALS

### A. Metal Stairs:

1. Manufacturers: FS Industries.; or approved equal.
2. Application: Interior stairs.
3. Treads: Steel plate treads.
4. Handrails: Factory welded offset handrails of 1 1/2" x 14 ga. square tubing. 42" high guards welded to stringer with 1/2" square rods vertical pickets @ 4" o.c.
5. Heavy Duty diamond plate treads and risers.
6. Auxiliary Materials:
  - a. Steel Plates, Shapes, and Bars: ASTM A 36.
  - b. Cold-Formed Steel Tubing: ASTM A 500.
  - c. Steel Pipe: ASTM A 53, standard weight (Schedule 40).
  - d. Rolled Steel Floor Plate: ASTM A 786.
  - e. Cold-Rolled Steel Sheet: ASTM A 366.
  - f. Fasteners: Plated fasteners, ASTM B 633, zinc-coated.

## 2.3 INSTALLATION

- A. Take field measurements prior to fabrication, where possible. Form to required shapes and sizes with true, straight edges, lines and angles. Provide light-tight, hairline joints.

- B. Coordinate with work of other sections; provide inserts and templates as needed. Install work plumb and level with uniform appearance.
- C. Stairs: Control access to and use of stair systems. Do not permit use of stairs until stairs and railing systems are complete and ready to assume design loading. Do not permit overloading of stair systems. Make connections lightproof tight by welding or bolting; conceal fastenings as much as possible. Grind flush and smooth all exposed welds. Fill pans with 3000 psi concrete with welded wire fabric and provide broom finish.
- D. Railings: provide sizes, profiles and dimensions indicated. Provide mitered joints at 90 degree turns and smooth sweeps at bends. Provide wall returns, end caps, brackets, fittings, and toe boards.
- E. Restore damaged finishes and protect work.

## SECTION 062000 - FINISH CARPENTRY

### PART 1- GENERAL

### 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.

#### 2.2 INTERIOR STANDING AND RUNNING TRIM

- A. Interior Softwood Lumber Trim: #1 Southern yellow pine.
  - 1) Maximum Moisture Content: **19** percent.

#### 2.3 PANELING

- A. Board Paneling: 3/4" thick X 8'-0", APA BC. 8'-0"



## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Conditions finish carpentry in installation areas for 24 hours before installing.
- B. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Scribe and cut to fit adjoining work. Refinish and seal cuts.
- C. Install standing and running trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Stagger joints in adjacent and related trim. Cope at returns and miter at corners.
- D. Install paneling with uniform tight joints. Install miscellaneous 2"x4" wood blocking at the vertical joint of the plywood.

## SECTION 072100 - THERMAL INSULATION

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS: Interior wall insulation.

- A. Submittals: Product Data.
- B. 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: 450 or less.
- C. Related Sections:
  - 1) Section 133419 – Metal Building Systems: Roof Insulation

### PART 2 - PRODUCTS

#### 2.1 INSULATION PRODUCTS

- A. Mineral-Fiber-Blanket Insulation: ASTM C 665, Sound Attenuation Blankets **Type I, 3" unfaced** with fibers manufactured from **rock wool**, with flame-spread index of 25 or less.
- B. Board Insulation: Board Insulation:
  - 1) Manufacturers: Knauf Insulation; or approved equal.
  - 2) Application: Exterior cavity walls.
  - 3) Type: Extruded polystyrene, rigid.
    - a) Standard: ASTM C 578. 1.5"

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install insulation in areas and in thicknesses indicated. Cut and fit tightly around obstructions and fill voids with insulation.
- B. Except for loose-fill insulation and insulation that is friction fitted in stud cavities, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.

## SECTION 07 81 00

### APPLIED FIREPROOFING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Provide applied fireproofing.

##### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.

##### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Fire Performance: ASTM E 119, UL requirements for 2 Hour and local regulations.

#### PART 2 PRODUCTS

##### 2.1 MATERIALS

- A. Concealed Sprayed-On Fireproofing, Mineral Fiber:

1. Manufacturers: Carbolite Co.; W. R. Grace & Co.; Isolatek International; Pyrok, Inc.; or approved equal.
2. Type: Standard density with sealer.
3. Auxiliary Materials: Primers, adhesive, lath, and reinforcing fabric.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Schedule and coordinate sequence of work to prevent damage from both weather and other work, to minimize time building is unprotected and to permit adequate observation, testing and inspection before being concealed by other work.
- B. Examine steel substrates, report in writing all unsatisfactory conditions; beginning work means acceptance of substrate.
- C. Clean, prime and prepare substrates. Comply with manufacturer's instructions and recommendations.
- D. Provide all auxiliary materials necessary and provide reinforcement wherever joint movement is expected.
- E. Provide material thicknesses necessary to provide fire-resistance ratings indicated or required by authorities having jurisdiction.
- F. Owner may employ independent field testing agency. Cooperate and provide samples as requested. Contractor shall pay all costs relating to repair/replacement/retesting of non-complying work.
- G. Remove overspray, repair or replace damaged areas and protect installed fireproofing from damage.

## SECTION 079200 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and color Samples.
- 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 **50 percent movement in both extension and compression for a total of 100 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, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses T, NT, M, G, A, and O.
  - 3) 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 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.
- E. 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.
- F. 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.

### 2.2 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer.
- B. Cylindrical Sealant Backings: 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. Comply with ASTM C 1193.
- B. Comply with ASTM C 919 for use of joint sealants in acoustical applications.

## SECTION 08 11 13

### HOLLOW METAL DOORS AND FRAMES

#### PART 4 GENERAL

### 1.1 SUMMARY

- A. Provide steel doors and frames.

### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.

### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Standards: ANSI/SDI-100, Recommended Specifications for Standard Steel Doors and Frames.
- C. Performance Standards:
  - 1. Fire-Rated Assemblies: NFPA 80, and acceptable testing agency listing.
  - 2. Thermal-Rated Assemblies at Exterior: ASTM C 236 or ASTM C 976.
  - 3. Sound-Rated Assemblies at Mechanical Rooms: ASTM E 1408, and ASTM E 413.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### A. Interior Steel Frames:

1. Manufacturers: Ceco Door Products; Steelcraft Manufacturing; or approved equal.
2. Material: Minimum 16-gauge steel sheet.
3. Corners: Mitered or coped.
4. Type: Welded.
5. Type: Drywall slip-on.
6. Finish: Factory primed and field painted.

#### B. Exterior Steel Doors:

1. Manufacturers: Steelcraft Manufacturing; Windsor Republic Doors; or approved equal.
2. Material: Minimum 16-gauge galvanized steel sheet.
3. Door Thickness: 1-3/4 inches, thermally insulated.
4. Finish: Factory primed and field painted.

#### C. Exterior Steel Frames:

1. Manufacturers: Steelcraft; Windsor Republic Doors; or approved equal.
2. Material: Minimum 14-gauge galvanized steel sheet.
3. Corners: Mitered or coped.
4. Type: Welded.
5. Finish: Factory primed and field painted.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Fabricate work to be rigid, neat and free from seams, defects, dents, warp, buckle, and exposed fasteners. Install doors and frames in compliance with SDI-100, NFPA 80, and requirements of authorities having jurisdiction.
- B. Provide thermally improved doors with maximum U-value of 0.24 BTU/hr./square foot degree F (ASTM C 236) for all exterior doors and elsewhere as noted.
- C. Provide acoustically improved doors with minimum STC of 33 (ASTM E 90 and ASTM E 413) where indicated.
- D. Hardware: Prepare doors and frames to receive hardware on final schedule. Provide for 3 silencers on single doorframes; 2 on double doorframes.
- E. Shop Finish: Clean, treat and prime paint all work with rust-inhibiting primer comparable with finish paint specified in Division 9 section. Provide asphalt emulsion sound deadening coating on concealed frame interiors.

- F. Touch up damaged coatings ready to receive finish painting.

## SECTION 08 14 00

### WOOD DOORS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Provide wood doors.

##### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.
- C. Warranty: Submit manufacturer's standard warranty. Include labor and materials to repair or replace defective materials.
  - 1. Solid-Core Exterior Doors: 5 years.
  - 2. Solid-Core Interior Doors: Life of installation.

##### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Quality Standards for Stile and Rail Doors: NWWDA I.S. 6.
- C. Quality Standards: [NWWDA I.S.1-A, "Architectural Wood Flush Doors."] [AWI's "Architectural Woodwork Quality Standards Illustrated."].
- D. Quality Standards: [NWWDA I.S.1-A, "Architectural Wood Flush Doors."] [WI's "Manual of Millwork."]
- E. Fire Rated Wood Doors: Meet NFPA 80 requirements.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### A. Interior Flush Wood Doors:

1. Manufacturers: Algoma Hardwoods;. Eggers Industries,.,.; VT Industries, Inc.; or approved equal.
2. Type: Solid core.
3. Thickness: 1-3/4 inches thick.
4. Grade: Premium.
5. Face: Maple Veneer.
6. Finish: Transparent.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Comply with NWMA I.S. 1A and specified quality standard.
- B. Prefit doors to frames. Premachine doors for hardware listed on final schedules. Factory bevel doors.
- C. Install doors with not more than 1/8 inch clearance at top and sides, 1/4 inch at bottom. Comply with NFPA 80 for rated assemblies.
- D. Adjust, clean, and protect.

## SECTION 083323 - OVERHEAD SECTIONAL DOORS

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS

- A. Structural Performance: Design and reinforce overhead sectional doors to withstand wind-loading pressure, as indicated on drawings.
- B. Submittals: Product Data and Shop Drawings.



## PART 2- PRODUCTS

### 2.1 OVERHEAD SECTIONAL DOORS

- A. Products:
  - 1) AMARR Garage Doors, Model 3 1000 Heavy-Duty 2” Insulated Steel Door
- B. Door Curtain Slats: **Galvanized steel, flat-profile, insulated** slats.
- C. Operation: Electrical Motorized Operation, remote and switched opening, with manual override. Remote operation shall not be affected by other station or truck frequencies. Radio transmitters must open bay doors from within truck cab at 100 yards minimum distance. Antenna to be mounted on the exterior above the overhead door.
- D. Tracks, Supports, and Hardware: Manufacturer's standard, mount inside of jambs. Each door track to have spring type stop at the back of open position.
- E. Weather seals: Provide replaceable weather stripping at bottom and at top of exterior doors.

## 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. Test and adjust controls and safeties.

## SECTION 087100 - DOOR HARDWARE

## PART 1 - GENERAL

### 1.1 SECTION REQUIREMENTS

- A. Submittals: Hardware schedule
- B. Deliver keys to Owner.

## PART 2 - PRODUCTS

### 2.1 HARDWARE

- A. Hinges:
  - 1) FBB1199 HT, High Frequency, Non-Rising Pins, Full Mortise, 1 ½ pair per Door, manufactured by HAGER
- B. Locksets and Latch sets:
  - 1) Exterior Doors: KABA Lock, Mechanical push-button combination lock, Model #LL-1011-26D-41, Manufactured by Grainger.
  - 2) Interior Doors: 5000 Series, Mortise lockset with L2 Lustra Lever, US26D Finish, Manufactured by SCHLAGE
- C. Closers:
  - 1) LCN Model #4210 or Norton #PR7570.
  - 2) Mount closers on interior side (room side) of door opening. Provide regular-arm, parallel-arm, or top-jamb mount closers as necessary.
- D. Provide wall stops for doors as indicated.
  - 1) Model #401, Manufactured by IVES
- E. Door Silencers
  - 1) Furnish three for each single door installed in metal door frames.
- F. Threshold
  - 1) Extruded Aluminum #171A, manufactured by PEMKO:
- G. Weather-stripping
  - 1) Rigid Jamb Weather-stripping, #303AV, Manufactured by PEMKO
  - 2) Door Sweep #315DN, Manufactured by PEMKO

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Mount hardware in locations recommended by the Door and Hardware Institute unless otherwise indicated.

### 3.2 HARDWARE SCHEDULE

- A. SEE DRAWINGS FOR SCHEDULE

## GYPSUM BOARD ASSEMBLIES

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Provide gypsum board assemblies.

#### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.

#### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Tolerances: Not more than 1/16-inch difference in true plane at joints between adjacent boards before finishing. After finishing, joints shall be not be visible. Not more than 1/8 inch in 10 feet deviation from true plane, plumb, level and proper relation to adjacent surfaces in finished work.
- C. Fire Resistance for Fire-Rated Assemblies: ASTM E 119.
- D. Performance: Fire, structural, and seismic performance meeting requirements of building code and local authorities.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

- A. Gypsum Board:
  - 1. Manufacturers: Georgia Pacific; National Gypsum Co.; United States Gypsum Company, or approved equal.
  - 2. Application: Interior walls, partitions, and ceilings with tape and joint compound finish.
  - 3. Material Standard: ASTM C1396.
  - 4. Type: Board for tape and joint compound finish.
    - a. Type: Regular, moisture-resistant and fire-rated types as required in drawings. Mold resistance on exterior walls.
    - b. Typical Thickness: 5/8 inch.
  - 5. Joint Treatment: ASTM C474 and ASTM C840, 3-coat system, paper or fiberglass tape.
  - 6. Auxiliary Materials:
    - a. Corner bead, edge trim and control joints.

- b. Gypsum board screws, ASTM C 1002.
- c. Gypsum board nails, ASTM C 514.

### PART 3 EXECUTION

#### 3.1 INSTALLATION

- A. Steel Framing: Install steel framing in compliance with ASTM C 754. Install with tolerances necessary to produce substrate for gypsum board assemblies with tolerances specified. Include blocking for items such as railings, grab bars, casework, toilet accessories, window treatment and similar items. Provide bridging as required by shop drawings system.
- B. Wood Framing: Install wood framing in compliance with Section 06100 - Rough Carpentry. Install with tolerances necessary to produce substrate for gypsum board assemblies with tolerances specified. Include blocking for items such as railings, grab bars, casework, toilet accessories, window treatment and similar items.
- C. Tape and Joint Compound: Install gypsum board for tape and 3-coat joint compound finish in compliance with ASTM C 840 and GA 216, Level 4 finish. Install gypsum board assemblies true, plumb, level and in proper relation to adjacent surfaces.
- D. Provide continuous vapor retarder at exterior walls.
- E. Provide fire-rated systems where indicated and where required by authorities having jurisdiction.
- F. Install boards vertically. Do not allow butt-to-butt joints and joints that do not fall over framing members.
- G. Provide insulation full height and thickness in partitions at conference rooms, toilet rooms, between different occupancies.
- H. Provide acoustical sealant at both faces at top and bottom runner tracks, wall perimeters, openings, expansion and control joints.
- I. Install trim in strict compliance with manufacturer's instructions and recommendations.
- J. Repair surface defects. Leave ready for finish painting or wall treatment.

### SECTION 092216 - NON-STRUCTURAL METAL FRAMING

## PART 1 - PRODUCTS

### 1.1 MANUFACTURERS

- A. USG
- B. Clark Dietrich Industries
- C. Approved Equal

### 1.2 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: **manufacturer's standard corrosion-resistant** zinc coating.
- B. Partition and Soffit Framing:
  - 1) Studs and Runners: In depth indicated, 18 gauge, unless otherwise indicated.
  - 2) Rigid Hat-Shaped Furring Channels: In depth indicated, 20 gauge.

### 1.3 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.

## PART 2 - EXECUTION

### 2.1 INSTALLATION

- A. Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.
- 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 exterior walls, install **asphalt-felt or foam-gasket** isolation strip between studs and wall.

## SECTION 09 51 00

### ACOUSTICAL CEILINGS

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Provide acoustical ceilings and suspension systems.

##### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.
- C. Extra Stock: Submit extra stock equal to 2 percent of amount installed.

##### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Performance: Fire, structural, and **seismic performance** meeting requirements of building code and local authorities. Acoustical performance based on project requirements.

#### PART 2 PRODUCTS

##### 2.1 MATERIALS

- A. Mineral Fiber Acoustical Ceilings:
  - 1. Manufacturers: Armstrong World Industries; Celotex; ; USG; or approved equal.
  - 2. Panel Size: 24 by 24 inches.
  - 3. Panel Edge: Tegular
  - 4. Grid: Exposed flush grid.
  - 5. Suspension System: Heavy duty.
  - 6. Auxiliary Materials:
    - a. Edge molding and trim.
    - b. Hold-down clips and impact clips.
    - c. Concealed acoustical sealant, low VOC type (less than 50 g/L).

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install materials and suspension systems in accordance with manufacturer's instructions and recommendations, and ASTM C 636. Coordinate installation with location of mechanical and electrical work to ensure proper locations and anchorage.
- B. Level ceiling to within 1/8 inch in 10 feet in both directions. Scribe and cut panels to fit accurately. Measure and lay out to avoid less than half panel units.
- C. Removal and reinstallation at existing ceilings: Remove and store materials for reuse when allowed. Handle with white gloves and avoid damaging corners and edges. Clean tiles and grid system, which have been removed. Provide additional materials to complete the work and to replace damaged existing materials. New materials shall match existing materials as approved.
- D. Adjust, clean, and touch up all system components.

## SECTION 09 65 00

### RESILIENT FLOORING

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Provide resilient flooring and floor preparation.

##### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.
- C. Extra Stock: Submit extra stock equal to 2 percent of total used.

##### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers.

Deliver, handle, and store materials in accordance with manufacturer's instructions.

- B. Performance: Fire performance meeting requirements of building code and local authorities.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Vinyl Composition Tile Flooring:

1. Manufacturers: Armstrong World Industries; Azrock Industries; Roppe Corp.; VPI Floor Products Div, or approved equal.
2. Type: Vinyl Composition Tile: ASTM F 1066, Class 2 through-pattern.
3. Size: 12 inches by 12 inches.
4. Thickness: 1/8 inch.
5. Thickness: 3/32 inch.
6. Auxiliary Materials:
  - a. Edge strips and terminations.
  - b. Leveling compound.
  - c. Low VOC adhesives (less than 60 g/L).

VCT Floor covering:

Make, Mannington.

Model name, Essentials Dalmatian,

Model # 111

Base: Mannington Edge (Type TV) night black (901)

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations. Install in proper relation to adjacent work.
- B. Prepare surfaces by cleaning, leveling and priming as required. Test adhesive for bond before general installation. Level to 1/8 inch in 10 foot tolerance.
- C. Tile Flooring: Install tile with tight joints and with one-way pattern. Layout to prevent less than 1/2 tile units.
- D. Sheet Flooring: Install sheets with tight joints and pattern in adjoining areas running in the same direction. Layout to minimize seams as approved.



- E. Clean, polish, and protect.

## SECTION 09 65 13

### RESILIENT BASE AND ACCESSORIES

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Provide resilient wall base and accessories.

##### 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.
- C. Submit extra stock equal to 2 percent of total used.

##### 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Performance: Fire performance meeting requirements of building code and local authorities.

#### PART 2 PRODUCTS

##### 2.1 MATERIALS

- A. Resilient Wall Base:
  - 1. Manufacturers: Roppe, or approved equal.
  - 2. Standard: ASTM F 1861.
  - 3. Type: TV (vinyl).
  - 4. Group: I (solid, homogeneous)
  - 5. Style: Cove.
  - 6. Thickness: 0.125 inch

7. Height: 4 inches.
8. Color: selected from standard colors.
9. Auxiliary Materials:
  - a. Low VOC adhesives (less than 60 g/L).
10. Preformed Exterior and interior corners.

### PART 3 EXECUTION

#### 3.1 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations. Install in proper relation to adjacent work.
- B. Install base and accessories to minimize joints. Install base with joints as far from corners as practical.
- C. Clean, polish, and protect.

### SECTION 099100 - PAINTING

#### PART 1 - GENERAL

##### 1.1 SECTION REQUIREMENTS

- A. Summary: Paint exposed surfaces unless otherwise indicated.
  - 1) Paint the back side of access panels.
  - 2) Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.
- B. Submittals:
  - 1) Product Data
  - 2) Samples.
- C. Extra Materials: Deliver to Owner **1 gal. (3.8 L)** of each color and type of finish coat paint used on Project, in containers, properly labeled and sealed.

#### PART 2 - PRODUCTS

##### 2.1 PAINT

- A. 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.
- B. Colors: As **selected** from standard colors.

## PART 2 - EXECUTION

### 3.1 PREPARATION

- A. Remove hardware, lighting fixtures, 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. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

### 3.2 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
  - 1) Use brushes only for exterior painting and where the use of other applicators is not practical.
  - 2) Use rollers for finish coat on interior walls and ceilings.
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface 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.

### 3.3 INTERIOR PAINT APPLICATION SCHEDULE

**Semi gloss Latex: Two coats** over Latex Primer

- A. Hollow Metal Doors and Frames:
  - 1) Ultra-hide Semi Gloss, 5086 Series: Two coats over factory applied primer.

Paint schedule for fire stations. (Global) From the Sherwin Williams Paint chips

Bay walls: Sheet rock ----SW 6100 Practical Beige  
Plywood-----SW 6109 Hop Sack  
All interior walls -----SW 6002 Essential Gray  
All metal including frames: SW 6002

## SECTION 101400 - SIGNAGE

### PART 1 - GENERAL

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Interior Panel Signs: **Engraved plastic laminate** with **beveled** edges and **rounded** corners.
  - 1) Finishes and Colors: **As selected from manufacturer's full range**
  - 2) Tactile Characters: Characters and Grade 2 Braille rose **1/32 inch (0.8 mm)** above surface with contrasting colors.
  - 3) Provide signs for restrooms mounted on the **wall beside the room door**: Text and Symbol to be Unisex ADA Restroom
  - 4) Provide painted stencil letters for fire rated walls and partitions.

### 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. Wall-Mounted Signs:
  - 1) Two-Face Tape: Mount signs to smooth, nonporous surfaces, other than vinyl.

## SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - PROVIDE BLOCKING FOR ROUGH IN ONLY. THERE ARE NO ACCESSORIES IN THIS PROJECT.

### PART 2 - GENERAL

#### 2.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

### PART 3 - PRODUCTS

### 3.1 TOILET AND BATH ACCESSORIES

#### A. Paper Towel Dispenser :

- 1) Surface Mounted, Model #B3949, Manufactured by Bobrick.

#### B. Toilet Tissue Dispenser:

- 1) Surface Mounted, Model #B273 (Heavy-Duty), Manufactured by Bobrick.

#### C. Grab Bar:

- 1) Penned Non-Slip Gripping Surface, 1 ¼-inch diameter, Model #B-5837.99 and Model #B-5806.99x24, Manufactured by Bobrick

#### D. Mirror:

- 1) ¼- inch Number 1 Quality, Electro Copper, Backed, Plate Glass, 20 gauge Stainless Steel Frame, Model #B165, Manufactured by Bobrick Based.

#### E. Under lavatory Guard:

- 1) Description: Insulating pipe coverings for supply and drain piping assemblies, which prevent direct contact with and burns from piping, and allow service access without removing coverings.
- 2) Material and Finish: Antimicrobial, molded plastic, white.

## PART 4 - EXECUTION

### 4.1 INSTALLATION

#### A. Install accessories using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

- 1) Install grab bars to withstand a downward load of at least **250 lbf (1112 N)**, when tested according to method in ASTM F 446.

#### B. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items. Remove temporary labels and protective coatings.

## SECTION 10 44 00

## FIRE PROTECTION SPECIALTIES

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Provide fire extinguishers, cabinets and accessories.

## 1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.

## 1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Standards: UL and FM listed products, NFPA 10.
- C. Regulations: ADAAG.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Fire Extinguishers:
  - 1. Manufacturers: J. L. Industries or approved equal.
  - 2. Type: Multipurpose dry chemical type.
  - 3. Rating: Sized for project requirements.
  - 4. Public Area Mounting: Cabinet mounted.
- B. Cabinets:
  - 1. Manufacturers: J. L. Industries; Larsen's Manufacturing; Potter-Roemer; or approved equal.
  - 2. Mounting: Semi-recessed.
  - 3. Trim: Exposed.
  - 4. Doors: Acrylic.
  - 5. Door Style: Full-glass panel.
  - 6. Accessories:
    - a. Signage.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other sections.
- B. Install FOUR fire extinguishers at locations and heights indicated ON DRAWINGS and acceptable to authorities having jurisdiction.
- C. Restore damaged finishes. Clean and protect work from damage.

## SECTION 133419 - METAL BUILDING SYSTEMS

### PART 1 - GENERAL

#### 1.1 SECTION REQUIREMENTS

- A. Metal Building System Description: **Rigid clear span, solid- member with expandable end wall and nonexpandable end wall, primary frame and end wall columns.**
  - 1) Eave Height: **Manufacturer's standard height, as indicated by nominal height on Drawings**
  - 2) Dimensions and Bay Spacing's: **As indicated on Drawings**
  - 3) Roof Slope: **3 inches per 12 inches**
  - 4) **Cable bracing shall not be allowed.**
  - 5) **Color of frames/girts: Standard Grey.**
- B. Structural Performance: Provide metal building systems capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - 1) Engineer metal building systems according to procedures in MBMA's "Metal Building Systems Manual."
  - 2) Design Loads: As **indicated.** or as **required by MBMA's "Metal Building Systems Manual."**
- C. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for **Class 60.**-WIND LOAD IS 110 MPH
- D. Submittals: **Product Data, Shop Drawings, structural analysis data signed and sealed by a qualified professional engineer registered in the state of South Carolina.**
  - 1) Submit letter of design certification, signed and sealed by a qualified professional engineer. Indicate name and location of Project, name of manufacturer, order number, name of contractor, governing building code and standards including year of edition, design loads and load combinations, building use category, and load importance factors.

- E. Comply with AISC's "Specification for Structural Steel Buildings - Allowable Stress Design, Plastic Design," or AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings"; and AISI's "Specification for the Design of Cold-Formed Steel Structural Members," or AISI's "Load and Resistance Factor Design Specification for Steel Structural Members."

## PART 2 - PRODUCTS

### 2.1 METAL BUILDINGS

#### A. Structural-Framing Materials:

- 1) W-Shapes: ASTM A 992/A 992M; ASTM A 572/A 572M, Grade 50
- 2) Channels, Angles, M-Shapes, and S-Shapes: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50.
- 3) Plate and Bar: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50.
- 4) Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
- 5) Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B or C, structural tubing.
- 6) Structural-Steel Sheet: Hot-rolled, ASTM A 1011/A 1011M, Structural Steel (SS), or High-Strength Low Alloy Steel (HSLAS); or cold-rolled, ASTM A 1008/A 1008M, Structural Steel (SS), or High-Strength Low Alloy Steel (HSLAS).
- 7) Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS) or High-Strength Low Alloy Steel (HSLAS); with G60 (Z180) coating designation; mill phosphatized.

#### B. Roof and Wall Panels:

- 1) Metal Panels: Steel sheet, zinc coated by the hot-dip process, complying with ASTM A 653/A 653M, G90 (Z275), Structural Steel (SS), and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
- 2) Lap-Seam Roof Panels: Metal panels factory formed to provide 36-inch (914-mm) coverage, with raised trapezoidal major ribs at 12 inches (305 mm) o.c., and intermediate stiffening ribs symmetrically spaced between major ribs. Design panels for mechanical attachment to structure using exposed fasteners, lapping major ribs at panel edges.
  - a)Roof Panel Metal Thickness: 24 Gauge
  - b)Color: Galvalume
- 3) Lap-Seam Wall Panels: Metal panels factory formed to provide 36-inch (914-mm) coverage, with raised trapezoidal major ribs at 12 inches (305 mm) o.c., and intermediate stiffening ribs symmetrically spaced between major ribs. Design panels for mechanical attachment to structure using exposed fasteners, lapping major ribs at panel edges.
  - a)Wall Panel Metal Thickness: 24 Gauge
  - b)Color: Kynar Finish, as selected by owner from standard finishes.
- 4) Panel Accessories: Provide clips, flashings, sealants, gaskets, and similar items.

- C. Flashing and Trim: Form from 0.0159-inch- (0.40-mm-) thick, zinc-coated (galvanized) steel



sheet pre-painted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Finish flashing and trim same as adjacent roof or wall panels.

- D. Gutters and Downspouts: Form from **0.0159-inch- (0.40-mm-)** thick, zinc-coated (galvanized) steel sheet pre-painted with coil coating. Match gutters to profile of gable trim and finish gutters to match roof fascia and rake trim. Finish downspouts to match wall panels.
- E. Metal Building Insulation: **ASTM C 991, Type I, or NAIMA 202**, glass-fiber-blanket insulation; **0.5-lb/cu. ft.** density; **3"-inch-(first layer)** wide, continuous, vapor-tight edge tabs; and with a flame-spread index of 25 or less.
  - 1) Vapor-Retarder Facing: Fiber-reinforced white polypropylene or vinyl film complying with ASTM C 1136 on interior face.
  - 2) Second layer of Additional Roof and Wall Insulation: 8"- R-35 in roof and 6"R-29 in wall in addition to insulation above.
- F. Accessories:
  - 1) Sectional Overhead Doors: Provide, metal trimmed openings; doors are specified in Division 08 Section "Sectional Doors."
- G. Miscellaneous Materials:
  - 1) Primer: SSPC-Paint 15, Type I, standard grey.
  - 2) Grout: ASTM C 1107, factory-packaged, nonmetallic grout, noncorrosive, and non-staining.
  - 3) Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; of manufacturer's standard size.
  - 4) Joint Sealant: ASTM C 920; one-part elastomeric polyurethane, polysulfide, or silicone-rubber sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weather tight; and as recommended by metal building system manufacturer.

## PART 3 - EXECUTION

### 3.1 ERECTION

- A. Setting Base and Bearing Plates: Clean concrete and masonry of bond-reducing materials and roughen surfaces before setting plates. Clean bottom surface of plates.
  - 1) Set plates for structural members on wedges, shims, or setting nuts.
  - 2) Tighten anchor rods after supported members have been positioned and plumbed.
  - 3) Pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure.
- B. Erect framing true to line, level, plumb, rigid, and secure. Comply with AISC specifications referenced in this Section.

- 1) Make field connections for primary framing using high-strength bolts installed according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts," snug tightened or pretensioned.
- 2) Fasten secondary framing to primary framing using clips and non-high-strength bolts. Hold rigidly to a straight line by sag rods.
- 3) Install joists, and accessories plumb, square, and true to line; securely fasten to supporting construction according to SJI's "Standard Specifications, Load Tables, and Weight Tables for Steel Joists and Joist Girders."
- 4) Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.
- 5) Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to structural framing.

C. Roof Panel Installation: Provide roof panels of full length from eave to ridge when possible.

- 1) Install screws with power tools having controlled torque to compress neoprene washer without damage to washer, screw threads, or panels. Install screws in predrilled holes.
- 2) Use aluminum or stainless-steel fasteners for exterior and galvanized fasteners for interior.
- 3) Locate panel splices over, but not attached to, structural supports; stagger panel splices.
- 4) Lap-Seam Roof Panels: Fasten to purlins with exposed fasteners at each lapped joint. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on lap seams. At splices, lap panels **6 inches (150 mm)**, seal with butyl sealant and fasten together with interlocking clamping plates.

D. Wall Panel Installation: Provide panel's full height of building unless otherwise indicated.

- 1) Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints.
- 2) When 2 rows of panels are required, lap panels **4 inches (100 mm)** minimum. Locate panel splices over structural supports.
- 3) Rigidly fasten base end of metal wall panels and allow eave end free movement due to thermal expansion and contraction. Pre-drill panels.
- 4) Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as necessary for waterproofing.
- 5) Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on lap seams.
- 6) Install screws with power tools having controlled torque to compress neoprene washer without damage to washer, screw threads, or panels. Install screws in predrilled holes.
- 7) Use aluminum or stainless-steel fasteners for exterior and galvanized fasteners for interior.

E. Insulation Installation: Install insulation concurrently with panel installation. Set vapor-retarder-faced units with vapor retarder to warm side of construction. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.

- 1) Over-Framing Installation: Extend over and perpendicular to top flange of secondary framing members. Hold in place by panels fastened to secondary framing.

- F. Gutters, Downspouts, Flashing, and Trim Installation: Comply with SMACNA's "Architectural Sheet Metal Manual." Provide for thermal expansion; conceal fasteners where possible, and set units true to line and level. Install work with laps and seams that will be permanently watertight.

## SECTION 311000 - EROSION AND SEDIMENT CONTROL

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. Work included: Provide protection of the environment during the construction of this project to reduce soil erosion and siltation to the lowest reasonably achievable level.

#### 1.2 GENERAL

- A. Exercise every reasonable precaution, throughout the life of the project, to prevent the eroding of soil and the silting of rivers, streams, lakes, reservoirs, other water impoundments, ground or roadway surfaces, drainage structures ditches or other property. Erosion control practices to be used for this project are shown on the drawings and are to conform to South Carolina Department of Health and Environmental Control regulations and permit and SCDOT permit conditions.

### PART 2 - PRODUCTS

#### 2.1 CRUSHED STONE

- A. Provide #57 crushed stone for project entrance and exit.

#### 2.2 GRASSING

- A. Comply with Section 329200: Grassing.

#### 2.3 SILT FENCE

- A. Posts:
  - 1) Steel posts shall be self-fastener angle steel type, 5' in length.
  - 2) Wood posts shall be 3" diameter or 3" square, 6' in length.
- B. **Provide** not less than No. 9 wire staples, 1 .5" long for fastening wire mesh.

- C. Woven wire shall conform to the requirements of ASTM A116, Class I zinc coating for wire. Each woven square shall measure 5.33" X 12". The top and bottom wires shall be 10 gauge. All other wires shall be 12 gauge.
- D. Wire mesh is not required with synthetic, extra strength filter fabric providing puncture strength of 50 psi in accordance with ASTM D751.
- E. Filter fabric shall be burlap or synthetic.
  - 1. If silt fencing is used more than 5 days, synthetic type shall be used.
- F. Burlap shall be 7.5 ounces weight and a minimum 32" wide.
- G. Filter fabric shall be Mirafi 700X as manufactured by Celanese Fibers Co., Bidim C34 as manufactured by DuPont, Trevira or approved equal.

#### 2.4 EROSION CONTROL BLANKET

- A. Use erosion control blanket S150, from North American Green or approved equal.

### PART 3 - EXECUTION

#### 3.1 GENERAL

- A. Construct and maintain all erosion control measures until the substantial completion of the project.

#### 3.2 CONSTRUCTION ENTRANCE

- A. Construct a gravel area or pad at points where vehicles enter and leave a construction site.
- B. Clear the entrance and exit area of all vegetation, roots, and other objectionable material and properly grade and place gravel to the grade and dimensions shown on the plans.
- C. Construct drainage channels to carry water to a sediment trap or other suitable outlet.
- D. Use geotextile fabrics to improve stability of the foundation in locations subject to seepage or high water table.
- E. Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site by periodic top dressing with two inches of stone.
- F. After each rainfall, inspect any structure used to trap sediment and clean it out as necessary.
- G. Immediately remove objectionable materials spilled, washed, or tracked onto public roadways.

### 3.3 TEMPORARY GRASSING

- A. Provide a temporary cover for erosion control on disturbed areas that will remain unstabilized for a period of more than 30 days in accordance with Section 329200 - GRASSING.
- B. This practice applies to cleared areas, diversions, dams, temporary sediment basins, temporary road banks, and topsoil stockpiles where vegetation is needed for less than 1 year.
- C. Provide grassing on slope 5% or greater within 14 days of disturbance.
  - 1. Comply with Section 329200 - GRASSING.

### 3.4 SILT FENCE

- A. Provide silt fence barrier where shown on the plans and on utility construction parallel to the disturbed trench where perpendicular sheet flow runoff occurs on disturbed areas with slopes greater than 4%.
- B. Place at the extreme limits of the area to be disturbed as shown.
- C. Construct temporary sediment barriers of filter fabric, buried at the bottom, stretched and supported by posts and install below small disturbed areas as indicated on the drawings to retain sediment by reducing the flow velocity to allow sediment deposition.
- D. Provide spacing between posts 5'0" on center, minimum.
- E. Fasten wire mesh to wood posts with wire staples. Wire mesh is not required with synthetic filter fabric.
- F. Remove sediment deposits prior to reaching one-third height of the fence.
- G. Monitor site frequently and place additional silt fencing should evidence indicate that erosion is about to occur at locations other than those shown on plan.

### 3.5 EROSION CONTROL BLANKET

- A. Provide on areas as shown on the plans or on all embankments with slopes equal to or steeper than 2H:1V .

### 3.6 TEMPORARY SEDIMENT TRAPS

- A. Utilize temporary sediment traps at the bottom of all disturbed slopes where runoff is parallel to the utility trench and draining into an existing ditch or stream and where slopes are 5% or greater along the trench.
- B. Provide at intervals of 75'.

### 3.7 MAINTENANCE

- A. Place all erosion control devices or measures prior to any land disturbing activity within the drainage area they are located.
- B. Periodically check erosion control devices and clean or otherwise remove silt build-up as necessary to maintain them in proper working order.

### 3.8 REMOVAL

- A. Remove temporary structures after protected areas have been stabilized.

### 3.9 MEASUREMENT AND PAYMENT

- A. No separate measurement and payment will be made for the work under this Section and all costs for same shall be included in the price bid for the items to which it pertains.

## SECTION 313116 - TERMITE CONTROL

### PART 1 - GENERAL

#### 1. SECTION REQUIREMENTS

- A. Submittals: Product Data and product certificates for each type of product indicated. Include the EPA-Registered Label.
- B. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located.
- C. Regulatory Requirements: Formulate and apply termiticides according to the EPA-Registered Label.
- D. Continuing Service: Provide **12 months'** continuing service including monitoring, inspection, and re-treatment for occurrences of termite activity.

### PART 2 - PRODUCTS

#### 2.1 TERMITE CONTROL PRODUCTS

- A. Soil Treatment Termiticide: Provide an EPA-registered termiticide complying with requirements of authorities having jurisdiction, in an aqueous solution.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label for products.
- B. Soil Treatment Application: 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.
  - 1) At foundations.
  - 2) Under concrete floor slabs on grade.
- C. Post warning signs in areas of soil treatment application.
- D. Reapply soil termiticide treatment solution to areas disturbed by subsequent excavation or other construction activities following application.

## SECTION 329200 – GRASSING

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF WORK:

- A. GENERAL: This item shall include cultivating, fertilizing and planting grass on fill slopes, cut slopes and graded areas, trench excavations, etc., as shown on plans or required by specifications. It is the intent of these specifications to provide for a complete grassing procedure which shall be carefully followed, and on consultation with the Engineer, shall be adjusted to meet unforeseen weather and soil conditions so as to secure a successful planting of the area involved.

### PART 2 - PRODUCTS

- 2.1 MATERIAL: Material for fertilizing and grassing shall be as follows and all shall be approved by the Engineer prior to use:
  - A. Lime: Lime shall be ground limestone (dolomite) containing not less than 85 percent of total carbonates, and shall be ground to such a fineness that 40 percent will pass a 100-mesh sieve and 90 percent will pass a 20-mesh sieve.
  - B. Fertilizer: Fertilizer shall be uniform in composition and in conformity with State Fertilizer Laws. Fertilizer shall contain the following minimum percentage of plant food by weight:

1. 10% Available Nitrogen (60% slow release)
  2. 10% Available Phosphoric Acid
  3. 10% Available Potash
- C. **Asphalt for Mulching:** Asphalt shall be emulsified asphalt conforming to ASTM D 977, Grade SS-1, or cutback asphalt conforming to ASTM D 2028, designation RC-70. The asphalt shall contain no petroleum solvents or other diluents which would be toxic to plant growth.
- D. **Mulch:** Mulch shall be the threshold stalks of oats, wheat, barley, rice, rye, beans or peanuts. It shall not contain more than 15 percent moisture. Mulch material which contains weeds or other plants detrimental to the site shall not be acceptable. Mulch which is excessively brittle, or badly decomposed, shall not be acceptable.
- E. **Seed:** All seed shall be new crop labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act SRA 156. Percentages by weight shall be as follows:

Kind of Seed	Minimum % Pure Live Seed	Minimum % Germination	Maximum % Weed Seed
Bermuda (Hulled)	87	85	1.00
Italian Rye Grass	98	95	0.50
Browntop Millet	90	80	1.00
Centipede	98	95	0.50

1. Seed failing to meet the purity or germination requirements by no more than ten (10%) percent may be used, but the quantity shall be increased to yield the required rate of pure live seed and germination. Seed failing to meet the weed seed requirements shall not be used.
- F. **Topsoil:** Topsoil shall have a "high" rating each of the basic nutrients tested and a pH ranging from 5.5 to 6.0. Necessary additives shall be incorporated in a proper quantity as recommended by a soil analysis to bring the topsoil supplied up to the standards specified. Topsoil shall be from naturally well-drained areas. Topsoil shall be clean and classified as a loam, silt loam, clay loam, or a combination thereof as determined by USDA Triangular Soils Texture Chart. The contractor shall furnish additional topsoil required above the amount obtained from the work are from sources offsite.
- G. **Embankment Stabilization Fabric:** Embankment stabilization fabric shall be SUBAC-6WM(UV) or TREVIRA-1127 or ENKAMAT-7010 as manufacture by Phillips Fiber Corporation, American Hoechst Corporation or American ENKA Corporation, respectively, or equal.



- H. Hydromulch: Wood cellulose fiber containing no germination inhibiting or growth inhibiting agents. Characteristics shall be as follows:

1. Percent moisture content: 9.0% ( $\pm$  3.0%)
2. Percent organic matter: 99.2% ( $\pm$  0.8%).
3. Percent ash content: 0.8% ( $\pm$ 0.2%).
4. pH: 4.8 ( $\pm$  0.5).
5. Water holding capacity: 1150 grams water/100 grams fiber, minimum.

### PART 3 - EXECUTION

- 3.1 GENERAL: All areas to be grassed shall be protected from erosion at all times. For protection during the period from September 1 to March 30, grass as specified herein shall be planted as a temporary cover on all areas which are not protected by permanent grass. Planting of the temporary grass cover shall not negate the requirements for a permanent Grass cover.
- A. Grading: Areas to be grassed shall be graded to remove depressions, undulations, and irregularities to the surface before grassing.
- B. Top soiling: Areas to be grassed shall have a minimum of four (4) inches of topsoil placed over them. Topsoil shall not be placed when the sub grade is wet.
- C. Tillage: The areas to be grassed shall be thoroughly tilled to a depth of 3-4 inches using a plow and disc harrow or rotary tilling machinery until a suitable seed bed has been prepared and no clods or clumps remain larger than 1½ inch in diameter.
- D. Applying Lime: The pH of the soil shall be determined by the Contractor. If the pH is below 5.0, sufficient lime shall be added to provide a pH between 5.5 and 6.5. The lime shall be evenly incorporated into the top three to four inches of the soil. Lime and fertilizer may be applied in one operation.
- E. Applying Fertilizer: Fertilizer shall be applied at the rate as specified herein and shall be evenly incorporated into the top three to four inches of soil.
- F. Installation of Embankment Stabilization Fabric: Embankment stabilization fabric shall be installed on all slopes less than 2 horizontal to 1 vertical in accordance with the manufacturer's recommended installation procedures.
- G. Planting Seeds for areas on slopes less than 3 horizontal to 1 vertical. Immediately before seeds are sown after fertilizer is applied, the ground shall be scarified as necessary and shall be raked until the surface is smooth, friable, and of uniformly fine texture. Areas to be grassed shall be seeded evenly with a mechanical spreader. Areas to be grassed shall be seeded evenly with a mechanical spreader, raked lightly, rolled with a 200-pound roller, and watered with a fine spray. On slopes inaccessible to compacting equipment, the seed shall be covered by dragging spiked chains, by light harrowing or by other satisfactory methods.

- H. Seeding Rate for temporary and permanent grass plantings by seasons or soil conditions, required amounts of fertilizer and limestone per 1,000 square feet shall be as follows:

From May 1 - August 31	From Sept. 1 - April 30
1 pound Brown top millet 2 pounds Hulled Bermuda 25 pounds 10-10-10 Fertilizer 75 pounds Limestone	2 pounds Annual Rye Grass ½ pound Hulled Bermuda 1½ pounds Unhulled Bermuda 25 pounds 10-10-10 Fertilizer 75 pounds Limestone
<b>or</b>	<b>or</b>
1 pound Brown top millet 1 pound Hulled Bermuda 0.6 pound Centipede 25 pounds 10-10-10 Fertilizer 75 pounds Limestone	2 pounds Annual Rye Grass ½ pounds Hulled Bermuda 0.6 pound Centipede 1 pound Unhulled Bermuda 25 pounds 10-10-10 Fertilizer 75 pounds Limestone
<b>or</b>	<b>or</b>
<b>DEEP SANDY SOILS</b>	<b>DEEP SANDY SOILS</b>
2 pounds Brown top millet 0.9 pounds Centipede 25 pounds 10-10-10 Fertilizer 75 pounds Limestone	1 pound Unhulled Bermuda 2 pounds Rye Grass or 2 pounds Grain Rye 0.6 pounds Centipede 25 pounds 10-10-10 Fertilizer 75 pounds Limestone

NOTE: All vegetated swales or ditches with side slopes (cut or fill) steeper than 2:1, add 4 to 6 ozs/1,000 square feet or Weeping Love Grass seed to any of the above mixtures. Swale and ditch bottoms should be double-seeded. Do not use Fescue in Sandy Soils.

- I. Hydro seeding: Hydro seeding is to be used for all areas with slopes equal to or greater than 3 horizontal to 1 vertical.
- J. Seeding (Wood Cellulose Fiber Mulch): After the lime has been applied and the ground prepared as specified, a seed/ fertilizer/wood cellulose fiber mulch mixture in water slurry shall be applied. Dispense mixture, using hydraulic mulching equipment, in the following minimum quantities:

- |    |              |  |
|----|--------------|--|
| 1. | Fertilizer   | 650 lbs./acre                              |
| 2. | Bermuda Seed | 85 lbs./acre (50% hulled and 50% unhulled) |
| 3. | Italian Rye  | 130 lbs./acre                              |
| 4. | Hydro mulch  | 1500 lbs./acre                             |

- K. Clean-Up: All excess soil, excess grass materials, stones and other waste shall be removed from the site daily and not allowed to accumulate.
- L. Maintenance: Maintenance shall begin immediately following the last operation of grassing and continue until final acceptance. Maintenance shall include watering, moving, replanting, and all other work necessary to produce a uniform stand of grass. Grassing will be considered for final acceptance when the permanent grass is healthy and growing on 97% of the area with no bare areas greater than 1 square foot.
- M. Acceptance: Permanently seeded areas will be accepted when the grass attains a height of 2". No acceptance will be made for temporary seeded areas.
- N. Measurement and Payment: No separate measurement and payment will be made for the work under this Section and all costs for same shall be included in the bid for the item to which it pertains.

END OF DOCUMENT

FIRE AND RESCUE EXPANSION EQUIPMENT SCHEDULE

SEE ATTACHED CUT SHEETS FOR MODEL NUMBERS AND SPECIFICATIONS  
CONTRACT TO PURCHASE AND INSTALL ALL SCHEDULED EQUIPMENT

ITEM	QUANTITY
ICE MAKER AND BIN	1
FRIGERATOR/ICE MAKER	1
SHOP CABINET WORK STAND	1
SHOP WORK TOP	1
SHOP SINK	1
COMPRESSOR	1
KEYED LOCK FOR EXTERIOR DOOR	3
BULK STORAGE RACK	10
WASHER	1
DRYER	1

EXTRACTOR—  
PURCHASED BY COUNTY INSTALLED BY GC. 1

END OF DOCUMENT