



**BULLOCH COUNTY BOARD OF COMMISSIONERS
115 NORTH MAIN STREET
STATESBORO, GEORGIA 30458**

**INVITATION FOR BID
STATESBORO-BULLOCH COUNTY AIRPORT NEW CORPORATE HANGAR**

The Bulloch County Board of Commissioners (herein after referred to as the "County") is accepting **COMPETITIVE SEALED BIDS** for:

Material or Service: Complete construction of a new Corporate Hangar at the Statesboro-Bulloch County Airport located at 601 Airport Blvd., Statesboro, GA 30461.

Mandatory Pre-Bid: There will be a **mandatory pre-bid meeting** on May 13, 2021 at 10:00 AM, at the job site, 601 Airport Blvd., Statesboro GA 30461. All contractors wishing to submit a bid must attend this pre-bid meeting. If the contractor or a representative of the contractor does not attend this meeting any submission for this project will be rejected.

Questions: Questions not asked at the mandatory pre-bid meeting will be directed to the Purchasing Manager in writing (email is preferable) no later than May 14, 2021 by 4:00 PM. Answers to questions will be addressed no later than May 17, 2021 by 4:00 PM.

Bid Submission Deadline: The deadline for receipt of sealed bids is 3:00 PM, May 27, 2021. Late bids will not be considered. Prospective bidders shall file all documents necessary to support their bids. **FAXED OR E-MAILED BIDS WILL NOT BE ACCEPTED.**

Time and Place for Submission and Opening of Bids: Bidders are responsible for the actual delivery of sealed bids during normal business hours to the Bulloch County Board of Commissioners, 115 North Main Street, Statesboro, Georgia 30458. The original bid and two (2) copies along with supporting documents must be submitted in a sealed clearly marked envelope. At the time and date of the bid deadline, the bids will be publicly opened and cost components read aloud at the Bulloch County Commissioners North Main Annex, in Conference Room 102 at the above-referenced address. The bids will be reviewed to determine conformity with the specifications and other criteria. Upon closure of the review, the Airport Manager will recommend the selection of a bid or bids most advantageous to the County or the rejection of all bids, which final decision will be approved by the Board of Commissioners.

Obtaining a Copy of Bid Package: A bid package may be requested by contacting Faye Bragg, Purchasing Manager, at fbragg@bullochcounty.net or retrieved from the County's website at <http://bullochcounty.net/procurement/>. Any addenda to this solicitation will be issued through the purchasing office, and it will be the sole responsibility of the bidder to periodically check the County's website for any addenda for this project. Failure to include a signed copy of any addenda issued for this project in the submitted bid package will result in the submitted bid not being considered for this project.

Bid Identification: The outside of the sealed envelope shall include the wording: Airport Corporate Hangar

Construction; Bid Opening: May 27, 2021 @ 3:00 PM; Attn: Faye Bragg, Purchasing Manager.

Check List: There is a checklist on **page 48** that lists the forms that **must** be included in the sealed bid submission. Failure to return any of the items on the check list will be just cause for non-acceptance of the submitted sealed bid.

Local Buying Preference: This solicitation is for a Public Works Construction Project, the County's local vendor pricing preference which allows for such a vendor to match the lowest price bid if within 5% **shall not be applicable**.

Award and Reservations: It is understood and agreed that in consideration of the sum of One Dollar and No/100 (\$1.00) cash in hand paid, receipt whereof is hereby acknowledged, the bidder agrees that this bid shall be an option, which is hereby given to the County to accept or reject this bid at any time within sixty (60) calendar days from the date on which it is opened and read. It is expressly covenanted and agreed that this proposal is not subject to withdrawal by the bidder during the term of said option. The bidder is solely responsible for delivering its sealed bid to the exact location and by the time stated. The County reserves the right to reject any or all bids and to waive technicalities and informalities in bids, and to accept, in whole or in part, such bid or bids that may be deemed in the best interest of the County. The County reserves the right to use or not use any alternate bid associated with this solicitation.

Exceptions to Specifications: Any contract resulting from this invitation shall bind the bidder to all terms, conditions and specifications set forth in this invitation. Bidders whose bids do not conform shall so note on the "Exceptions to Specifications" sheet provided. While the County reserves the right to make an award to a nonconforming bidder when in the best interest of the County, such awards will not be readily made, and bidders are urged to conform to the greatest extent possible. No exceptions will be considered to have been taken by a bidder unless it is properly set out as provided above, and no exception will be deemed to have been taken by the County unless incorporated in a contract resulting from this invitation and so stated.

If awarded, an award will be made to that responsive and responsible bidder or bidders with the most advantageous bid or bids to the County, price and other factors considered. Time is of the essence.

TERMS AND CONDITIONS

Changes: No change shall be made to this invitation except by written modification by the Purchasing Department.

Fob Destination Point: Bid prices shall include shipping to the Statesboro-Bulloch County Airport located at 601 Airport Blvd., Statesboro GA 30461. Title to remain with vendor until fully accepted by County. Goods damaged or not meeting specifications will be rejected.

Compliance: The County's failure to insist on compliance with any of the terms or conditions of this Invitation to Bid shall not be deemed a waiver of the County's right to insist at any time on full compliance with any of the terms and conditions stated herein.

Disqualification: Bids may be disqualified for: a) receipt of the bid by the County past the stated deadline; b) any irregularities; c) unbalanced unit price or extensions; d) unbalanced value of any items; or, e) failure to complete bid information correctly. If in the opinion of the County, the bidder is not in a position to perform the contract, the bid may be disqualified and rejected. The County reserves the right to waive any minor informalities or irregularities.

Lawsuits/Bribery/Conflicts of Interest/Defaults: Prospective bidders shall disclose any record of pending lawsuits, criminal violations and/or convictions, conflicts of interest, or contract defaults.

Liability: The County is not liable for any cost incurred in the preparation of the bid. Nor is the County

bound by any information provided to bidders prior to the bid opening unless reduced to writing and distributed as a written addendum.

Clarification of Submittals: The County reserves the right to seek clarification of any point in a bidder's sealed bid submission, or to obtain additional information.

Exceptions: Conditional bids or those that take exception to the specifications will be considered only at the discretion of the Project Manager.

Correction or Withdrawal of Bids, Cancellation of Awards: Correction or withdrawal of bids after the deadline for submitting bids has passed, or cancellation of awards or contracts may be permitted only to the extent that the bidder can show by clear and convincing evidence that a clerical mistake of non-judgmental character was made, or where the withdrawal or cancellation is in the best interest of the County.

County Obligations: The County has a standing policy to disqualify or withhold compensation to vendors, contractors and professional consultants if there are existing obligations to the County for any liens, ad valorem taxes, licenses or other financial remittances due to the County.

Award: If awarded, the award will be made to that responsive and responsible bidder or bidders whose bid is most advantageous to the County, price and other factors considered. The County specifically reserves the right to make an award to more than one bidder if the County determines that it is in the County's best interest to do so, and to reject any and all bids. The bidder or bidders to whom the award is made will be notified at the earliest possible date.

Project Schedule: The project shall be defined in the notice to proceed and be complete according to the time schedule set forth in the contract. Time is of the essence.

Insurance Requirements: The Contractor must submit with bidding documents, a Certificate of Liability Insurance indicating required insurance coverages. This insurance will be kept in force during the duration of the contract. Failure to provide and maintain insurance may cause cancellation of contract. Contractor shall purchase from and maintain with a company or companies authorized to do business in the state of Georgia the following types of insurance:

- A. Statutorily required workers' compensation insurance.
- B. Commercial general liability insurance, **with an endorsement naming the County and its officials, officers, and employees as additional insured**, and with limits of not less than \$1,000,000.00 per occurrence and \$2,000,000.00 aggregate.
- C. Motor vehicle liability insurance with limits of not less than \$1,000,000.00 for bodily injury to or death of one person in any one accident, and not less than \$2,000,000.00 because of bodily injury to or death of two or more persons in any one accident; and not less than \$250,000.00 because of injury to or destruction of property.

Builder's Risk Insurance: The awarded contractor will also have to provide Builder's Risk Insurance as described in the attached contract.

Bonds: A bid bond in the amount of 5% of the total bid is required to be submitted with the bid. If the contract is awarded, the successful bidder will be required to furnish payment and performance bonds in the amount of 100% the contract. Sureties for bid bonds, payment and performance bonds must be good and solvent sureties licensed to do business in the State of Georgia and **must be on the U.S. Treasury Department's most current list of approved sureties in Circular 570.**

Contract: The successful bidder shall be required to enter into a contract that is substantially the same as the contract included herewith.

Payment: Payments will be made upon completion of work and acceptance by the County on invoices submitted and approved by the Project Manager within (30) thirty days of receipt of invoice. Itemize all invoices in full. Be sure our order number is on your invoice.

Inquiries Regarding Payment: All inquiries regarding payment of invoices are to be directed to Accounts Payable, (912) 764-6245.

Regulatory Agencies: Successful bidder will be responsible for all required permits or licenses required by any regulatory agency of the City, County, State or Federal Governments.

Anti-Discrimination Clause: Bulloch County does not discriminate against any person because of race, color, gender, religion, national origin, or handicap in employment or services provided.

Commodity Status: It is understood and agreed that materials delivered shall be new, of latest design, and in first quality condition, that all bags, containers, etc., shall be new and suitable for storage, unless otherwise stated by Bulloch County.

Delivery: Delivery shall be made to the Statesboro-Bulloch County Airport located at 601 Airport Blvd., Statesboro GA 30461.

Product Compliance: Bidders must submit with their bid the printed specifications on the products used for the construction of the new corporate hangar.

Quality: Any brand name or manufacturer's reference used in the specifications is for the purpose of describing a standard of quality, performance and characteristics desired and not intended to limit or restrict competition. Bidders shall provide proof that the merchandise bid is equal or equivalent to specifications. The County shall be the sole entity to determine acceptance or non-acceptance of equivalents.

Bid Reservations: The County reserves the right to reject any or all Bids, to award in whole or in part and to waive minor immaterial defects in Bids. Negotiations may be necessary to complete the contract.

Indemnification: The Contractor agrees to indemnify, hold harmless, and defend the County, its officials, and employees (hereinafter collectively "the indemnitees") from and against any and all claims, damages, liabilities, suits, proceedings, costs, and expenses of litigation (including, without limitation, reasonable attorney's fees) related to or arising in any way out of the performance of this Agreement, unless such is attributable to the sole negligence of the indemnitees. The indemnity obligation of the Contractor will survive the expiration or termination of this Agreement.

Immigration: On July 1, 2009, the Georgia Security and Immigration Compliance Act (SB 529, Section 2) became effective. All employers, contractors and subcontractors entering into a contract or performing work for Georgia's public employers in the amount of \$2,500 or more must sign an affidavit that he/she has used the E-verify System. This includes out-of-state contractors. E-verify is a no-cost federal employment verification system to insure employment eligibility. For more information on E-verify please go to <http://www.dhs.gov/e-verify>. An affidavit is enclosed in this solicitation. All Proposers are to read and complete the E-verify Contractor Affidavit enclosed to be returned with response. Failure to do so will result in your solicitation response being rejected as non-responsive.

If you use a third party administrator, do not enter their name or number in place of the Federal Work Authorization E-verify Company ID#; the administrator's name or their number does not replace the actual number you were issued. You must contact your administrator for the number and the date of authorization (when the number became effective) for your company. At this time there are no alphabetical letters in the

E-verify Company ID#.

If you only include the third party administrators name or their number and not the actual authorization number you were issued this will result in your solicitation response being rejected as non-responsive.

Drawings: Diagrams containing the hangar plans are in a separate attachment.

The bid must be submitted in a sealed envelope to the following address:

Bulloch County Commissioners
Attn: Purchasing Manager
115 N Main St.
Statesboro, GA 30458

Bidders will be fully responsible for the delivery of their bids in a timely manner. Reliance upon U.S. Mail or other carriers is at the bidder's risk. Late bids will not be considered.

For technical questions concerning this bid contact Kathy Boykin, Airport Manager, at 912.764.9083 or k.boykin@statesboroairport.com

For procurement procedures concerning this bid contact Faye Bragg, Purchasing Manager, at fbragg@bullochcounty.net.

TECHNICAL SPECIFICATIONS INDEX

023610	TERMITE CONTROL
033000	CAST-IN-PLACE CONCRETE
061000	ROUGH CARPENTRY
083600	HYDRAULIC HANGAR DOORS
092601	GYPSUM BOARD ASSEMBLIES
099100	PAINTING
133419	PRE-ENGINEERED METAL BUILDING SYSTEMS

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SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Framing with dimension lumber.
- B. Related Sections include the following:
 - 1. Division 9 Section "Gypsum Board Assemblies" for gypsum board applied to studs.
 - 2. Other Division 6 Specifications on Drawings.

1.2 DEFINITIONS

- A. Rough Carpentry: Carpentry work not specified in other Sections and not exposed, unless otherwise indicated.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. SPIB - Southern Pine Inspection Bureau.

1.3 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1.4 QUALITY ASSURANCE

- A. Source Limitations for Engineered Wood Products: Obtain each type of engineered wood product through one source from a single manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
 - 4. Provide dry lumber with 15 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

2.2 DIMENSION LUMBER

- A. General: Provide dimension lumber of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
- B. Interior Walls and Partitions: Stud, or No. 2 grade and the following species:
 - 1. Spruce-pine-fir (south).

2.3 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: CABO NER-272.
- D. Wood Screws: ASME B18.6.1.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Do not use materials with defects that impair quality of rough carpentry or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. CABO NER-272 for power-driven fasteners.
2. Table 2306.1, "Fastening Schedule," in the Standard Building Code.

- D. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.
- E. Use finishing nails for exposed work, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Build anchor bolts into masonry during installation of masonry work. Where possible, secure anchor bolts to formwork before concrete placement.

3.3 WOOD FRAMING INSTALLATION, GENERAL

- A. Framing Standard: Comply with AFPA's "Manual for Wood Frame Construction," unless otherwise indicated.

3.4 WALL AND PARTITION FRAMING INSTALLATION

- A. General: Arrange studs so wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs. Anchor-bolt exterior walls and nail interior wall plates to supporting construction.
1. For exterior walls and interior partitions, provide 2-by-4-inch nominal- size wood studs spaced 16 inches o.c., unless otherwise indicated.
- B. Construct corners and intersections with three or more studs. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
1. Provide continuous horizontal blocking at midheight of partitions more than 96 inches high, using members of 2-inch nominal thickness and of same width as wall or partitions.
- C. Fire block concealed spaces of wood-framed walls and partitions at each floor level and at ceiling line of top story. Where fire blocking is not inherent in framing system used, provide closely fitted wood blocks of 2-inch nominal- thick lumber of same width as framing members.
- D. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Set headers on edge and support on jamb studs.

END OF SECTION 061000

SECTION 083600 – HYDRAULIC HANGAR DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes One Piece Hydraulic Hangar Doors.

1.2 DESIGN REQUIREMENTS

A. Hangar Door / Hydraulic Tilt-Up One Piece Door System

The design of the Hydraulic Hangar Doors shall be in accordance with the specified criteria to insure that the hangar door shall operate as specified and not interfere with the structure or associated trim components. The door shall fit tightly and be built without warping or sagging of members. The performance requirements shall include a one piece upward swinging door that allows for thermal movement and prevent the door from buckling from ambient and surface temperatures. Operating range of the hydraulic system shall be between minus 30 degrees Fahrenheit to 140 degrees Fahrenheit.

B. Wind Loads

The Solid one piece design Hydraulic hangar doors shall be designed per the geographic regions external wind pressures. Design pressures shall be based upon the governing authority or specified by the lead design engineer for each project as it may apply.

C. Deflection

Hangar Door systems shall be designed with maximum deflections:

Positive upward deflection of 1"

Negative downward deflection of 1"

Design of the structure shall allow for the weight of the door system.

E. Cold Form Members

Cold Form members shall be used in locations on the door framing as required. Cold form will typically be comprised of angles and flat bar only.

F. Hardware

Fastening hardware shall conform to domestic hardware and provide markings to the grade of hardware on the head of the fastener for visual identification.

1.3 SUBMITTALS

Approval of the shop drawings is required prior to fabrication of the hangar door systems.

A. Shop Drawings

- a. Hangar Door operation and general maintenance manuals specific to Hydraulic hangar Doors.
- b. Fabrication drawings showing detailed construction of the hydraulic hangar door framing including top and side rail framing, door locks, top hinge assemblies, hydraulic hose and hard pipe, door locations and framing, stiles, top and bottom frames, and mounting clips.
 - i. Details in shop drawings shall denote weld identifications, connection hardware, and cylinder ram system locations
- c. Wiring schematics information including field wiring, location of junction boxes physical locations of devices.

B. Design Data

- a. Submit design data structural and mechanical calculations
- b. Miscellaneous weather seals and accessories

1.4 QUALITY ASSURANCES

A. Manufacture's Qualifications:

The hydraulic hangar Door manufacture shall be one who is regularly engaged in the production of one piece tilt or swing up steel hydraulic doors of the type and size associated for the project. The manufacture shall have experience with the installation and have qualified representatives that can field visit the site if issues arise. The Manufacturer shall a certification program for installers to attend to receive training for the correct installation of the hangar door and the operator systems.

B. Installers Qualifications:

Installers shall have experience in installing Hydraulic hangar doors and the knowledge and equipment to handle the members safely without warping or bending the materials during installation.

Installer must be aware that the structure may have a greater deflection and the building will need to be "pre-loaded" prior to the permanent attachment to the building.

C. Delivery, Storage & Handling

All materials that are not shop installed shall be placed in dry storage. Structural steel shall be stored on blocking above the earth pavement to prevent damage.

Hangar door materials to be checked off on the bill of lading sign off and accepted or noted as missing or damaged.

PART 2 – PRODUCT SCOPE

2.1 HYDRAULIC HANGAR DOORS

Hydraulic Hangar Door solid panel and frame BASIS of DESIGN shall be **Well bilt Industries USA, LLC** in accordance with the shop drawings and specifications and options denoted by the owner or architect.

Acceptable Manufacturers whose products are comparable include **Schweiss Hydraulic Doors, High-Fold Door Corporation** and **Higher Power Hydraulic Doors**.

- A. Door Manufacture to provide trained personnel to oversee the fabrication of the hydraulic hangar door system. The supervision will insure that the door system is manufactured in strict accordance with the approved shop drawings.
- B. Hardware (Mounting)
Provide hangar door hardware that meets the design criteria and the actual loads including dead load and wind loads as specified for the project.
- C. Hydraulic devices
Hydraulic devices such as pumps, actuators, valves, reservoirs and rams shall be of sufficient size and design to carry the load with a safety factor built into the design.
 - a. Pumps to be capable of a duty cycle no less than 200% of the required run time.
 - b. Reservoir to be capable of handling 125% of the required fluid required to fully extend the hydraulic rams.
 - c. Actuators shall match the system requirements for remote system use.
- D. Weather Stripping (Top & Bottom)
Provide weather stripping that is easily replaceable on the horizontal bottom and vertical edges of the door. Material shall be EPDM with cloth insertion and be attached 12" O.C. The installer will insure that the top weather seal is installed properly per the manufactures instruction.
- E. Primer:

Red Oxide, Gray industrial primer, SSPC 25 over prepared surface by means of blasting or surface wire wheel depending on the quality of steel.

- F. Electric Operators of Hydraulic Hangar Doors:
 - a. Electrical Distribution: Contractor shall supply power to the hydraulic pump motor control enclosure.
 - b. Enclosures: Control panels shall be enclosed a NEMA 4 boxes to allow for water tight enclosure; installers of the electrical connections shall note to not drill into the top of the enclosure to prevent water infiltration. All conduit runs should come from the bottom of the enclosure when practical.
 - c. Contractors and Controls: Each system to be designed for the application and size of the Hydraulic hangar door system. Systems shall include reversing contractors, operation control buttons that open, close and stop the system. System will allow for contractors to be interlocked with limit switches for opening limits and closing limits. Interlocks for personnel door when applicable.
 - d. Motors: Electric Motors will be sized according and power systems requirements shall match the architects phasing of the electrical system. Fusing of the system will be at the discretion of the design professional.

2.2 MANUFACTURING & ASSEMBLY

- A. Hydraulic Hangar Door Panels & Frames:
 - a. Door Panel to be manufacture from square and rectangular tubing. Panel framing shall be shop welded and assembled fully in the shop to insure the door can be assembled in the field. Door panel shall be designed to have exterior panel connection no less than 5 feet from any horizontal member.
 - b. Exterior truss system shall be fully welded to prevent water intrusion. Truss shall be designed as a welded member with the door panel and factory welded.
 - c. Door Frames shall consist of a minimum of ¼" square or rectangular tubing. Header system of the frame may be spliced material depending on the width of the door system. The side of the frame will consist of full pieces not spliced unless the length required exceeds the available material. Splices shall be made in the field of the material using a socket system to insure proper fit and finish by installers.
 - d. Wind and Locking Pins
Each door panel shall be fitted with a cold roll drop pin located in the door panel for securing the door to the finished floor. Depending on the size of the door system pin placement and quantity will vary per the engineering.
 - e. Hinges:
Door system shall be shipped with five (5) barrel hinges with grease fittings. Pins for the door system shall be cold rolled stock with welded ends to prevent unintended removal or movement.

2.3 OPERATION OF PANELS

Hydraulic Hangar Door System operation

The doors shall be upward swinging doors pivoting on hinges at the head of the door system. Doors are actuated by means of twin hydraulic ram cylinders working in sequence.

PART 3 – EXECUTION

3.1 ERECTION & INSTALLTION

- A. Inspection of the existing conditions prior to installation of the door system. Installer should

review the structure insuring the header supporting frame are installed in accordance with the design. The opening shall be square and plumb. The door should not be installed until the primary structure is correctly installed and all trades have completed the sequences of work.

- B. Hydraulic door system shall be installed in a workman like manner and assembly shall be in accordance with the shop drawings and installation manuals. Door systems that require a splice due to the size of the door system shall be placed upon cribbage or blocking that completely levels the door panel prior to splice. Slices that are welded are to be welded per the AWS specifications for field welding.
- C. Clean any surfaces abraded, bolts and field welds and field coat surfaces with primer.

3.2 QUALITY CONTROL FIELD TESTING

- A. Test the hydraulic door upon completion to insure proper operation. Owner's representative shall be present to approve the installation of door systems. Adjust door as required to provide the correct operation if necessary. Provide written report to Owner and door manufacture stating door was successfully operational.
- B. Manufacture Representative Commissioning.
At the Owners discretion additional commissioning inspection may be performed by Well Bilt Industries to inspect the overall operation and installation of the door system. The commissioning shall include a written report as well as photographic evidence of the correct installation.
- C. Warranty
Owner shall be provided a Standard one year warranty for the door system by Well Bilt Industries. Warranty shall be warranting the hangar door free from defects of materials and labor for a period of one year. Warranty shall be transferable for up to one year.

Extended Warranties are available and must be agreed to in writing at time of purchase.

END OF SECTION 083600

SECTION 023610 - TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following for termite control:
 - 1. Soil treatment.

1.2 DEFINITIONS

- A. EPA: Environmental Protection Agency.
- B. PCO: Pest control operator.

1.3 SUBMITTALS

- A. Product Data: Treatments and application instructions, including EPA-Registered Label.

1.4 QUALITY ASSURANCE

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

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with EPA-Registered Label requirements and requirements of authorities having jurisdiction.

1.6 COORDINATION

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

1.7 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Warranty: Written warranty, signed by applicator and Contractor certifying that termite control work, consisting of applied soil termiticide treatment, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.
- C. Warranty Period: Three years from date of Certificate of Final Completion.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT

- A. Termiticide: Provide an EPA-registered termiticide complying with requirements of authorities having jurisdiction, in a soluble or emulsible, concentrated formulation that dilutes with water or foaming agent, and formulated to prevent termite infestation. Use only soil treatment solutions that are not harmful to plants. Provide quantity required for application at the label volume and rate for the maximum termiticide concentration allowed for each specific use, according to the product's EPA-Registered Label.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's written instructions for preparing substrate. Remove all extraneous sources of wood cellulose and other edible materials such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil and around foundations.
- B. Fit filling hose connected to water source at the site with a backflow preventer.

3.3 APPLICATION, GENERAL

- A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label for products.

3.4 APPLYING SOIL TREATMENT

- A. Application: Mix soil treatment termiticide solution to a uniform consistency. Provide quantity required for application at the label volume and rate for the maximum specified concentration of termiticide, according to manufacturer's EPA-Registered Label, to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction. Distribute the treatment evenly.
 - 1. Slabs-on-Grade: Underground-supported slab construction, including, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
- B. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.
- C. Protect termiticide solution, dispersed in treated soils and fills, from being diluted until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.
- D. Post warning signs in areas of application.
- E. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

END OF SECTION 023610

SECTION 033000 - CAST-IN-PLACE CONCRETE

1.1 SUMMARY

- A. This Section specifies cast-in-place concrete, including reinforcement, concrete materials, mix design, placement procedures, and finishes.

1.2 SUBMITTALS

- A. General: In addition to the following, comply with submittal requirements in ACI 301.
- B. Design Mixes: For each concrete mix.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
- C. Source Limitations: Obtain each type of cement of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- D. Comply with ACI 301, "Specification for Structural Concrete," including the following, unless modified by the requirements of the Contract Documents.
 - 1. General requirements, including submittals, quality assurance, acceptance of structure, and protection of in-place concrete.
 - 2. Formwork and form accessories.
 - 3. Steel reinforcement and supports.
 - 4. Concrete mixtures.
 - 5. Handling, placing, and constructing concrete.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 deformed.
- B. Plain-Steel Wire: ASTM A 82, as drawn.

2.2 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Types I or II or Type I/II.
- B. Normal-Weight Aggregate: ASTM C 33, uniformly graded, not exceeding 1-1/2-inch nominal size.
- C. Water: Potable and complying with ASTM C 94.
- D. Synthetic Fiber: Fibrillated or monofilament polypropylene fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches long.

2.3 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures. Do not use admixtures containing calcium chloride.

2.4 RELATED MATERIALS

- A. Vapor Retarder: Multi-ply reinforced polyethylene sheet, ASTM E 1745, Class C, not less than 7.8 mils thick; or polyethylene sheet, ASTM D 4397, not less than 10 mils thick.
- B. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.5 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf.
- B. Water: Potable.

2.6 CONCRETE MIXES

- A. Comply with ACI 301 requirements for concrete mixtures.
- B. Prepare design mixes, proportioned according to ACI 301, for normal-weight concrete determined either laboratory trial mix or field test data bases, as follows:
 - 1. Compressive Strength (28 Days): 3000 psi.
 - 2. Slump: 4 inches.
- C. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd.

2.7 CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with ASTM C 94 and ASTM C 1116.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 VAPOR RETARDER

- A. Install, protect, and repair vapor-retarder sheets according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.
- B. Lap joints 6 inches and seal with manufacturer's recommended tape.

3.2 STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.3 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Isolation Joints: Install joint-filler strips at junctions with slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 1. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
- C. Contraction (Control) Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints with galvanized keyways prior to placement of concrete. Saw cut joints within 24 hours of concrete placement to a depth of 1/4 the concrete thickness.

3.4 CONCRETE PLACEMENT

- A. Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.
- B. Do not add water to concrete during delivery, at Project site, or during placement.
- C. Consolidate concrete with mechanical vibrating equipment.

3.5 FINISHING FORMED SURFACES

- A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Completely remove fins and other projections.
 - 1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
 - 2. Do not apply rubbed finish to smooth-formed finish.
- B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.6 FINISHING UNFORMED SURFACES

- A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on the surface.
 - 1. Do not further disturb surfaces before starting finishing operations.
- C. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces.

3.7 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection, and follow recommendations in ACI 305R for hot-weather protection during curing.
- B. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.
- C. Curing Methods: Cure formed and unformed concrete for at least seven days by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

END OF SECTION 033000

SECTION 092601 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum wallboard.
- B. Related Sections include the following:
 - 1. Division 6 Section "Rough Framing" for wood framed walls.

1.2 DEFINITIONS

- A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

1.4 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

PART 2 - PRODUCTS

2.1 INTERIOR GYPSUM WALLBOARD

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Gypsum Wallboard: ASTM C 36.
 - 1. Regular Type:
 - a. Thickness: 1/4" or as indicated.
 - b. Long Edges: Tapered.

- c. Location: As indicated.

2.2 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

- 1. Material: Galvanized.
- 2. Shapes:
 - a. Cornerbead: Use at outside corners and as indicated, at door frames.
 - b. Expansion joint: Locate as indicated.

2.3 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475.

B. Joint Tape:

- 1. Interior Gypsum Wallboard: Paper.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

- 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
- 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
- 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
- 4. Finish Coat: For third coat, use drying-type, all-purpose compound.

D. Joint Compound for wet area Panels:

- 1. Water-Resistant Gypsum Board: Use setting-type taping and setting-type, sandable topping compounds.

2.4 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

- 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216.
- B. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Attach gypsum panels to studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- F. Attach gypsum panels to framing provided at openings and cutouts.
- G. Form control and expansion joints with space between edges of adjoining gypsum panels.
- H. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
- I. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2 mm) o.c.

3.3 PANEL APPLICATION METHODS

- A. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Expansion Joint: Install in Corridor walls so that uninterrupted wall lengths do not exceed 50 feet. Install at top corner of door jamb or wall opening.

3.5 FINISHING GYPSUM BOARD ASSEMBLIES

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
 - 1. Level 2: Embed tape and apply separate first & fill coats of joint compound to tape.
 - 2. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.
 - 3. Apply level 2 finish for concealed, fire rated conditions.

END OF SECTION 092601

SECTION 099100 - PAINTING (PROFESSIONAL LINE PRODUCTS)

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
 - 1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
 - 1. Prefinished items include the following factory-finished components:
 - a. Architectural woodwork.
 - b. Finished mechanical and electrical equipment.
 - c. Light fixtures.
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Foundation spaces.
 - b. Furred areas.
 - c. Ceiling plenums.
 - d. Utility tunnels.
 - e. Pipe spaces.
 - f. Duct shafts.
 - 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Chromium plate.
 - c. Galvanized steel.
 - 4. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.

- d. Motor and fan shafts.
- 5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.2 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
 - 1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 - 2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
 - 3. Semigloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.

1.3 SUBMITTALS

- A. Product Data: For each paint system indicated. Include block fillers and primers.
 - 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
- B. Samples for Initial Selection: For each type of finish-coat material indicated.
 - 1. After color selection, Architect will furnish color chips for surfaces to be coated.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Source Limitations: Obtain primers for each coating system from the same manufacturer as the finish coats.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
 - 1. Product name or title of material.
 - 2. Product description (generic classification or binder type).
 - 3. Manufacturer's stock number and date of manufacture.
 - 4. Contents by volume, for pigment and vehicle constituents.
 - 5. Thinning instructions.

6. Application instructions.
7. Color name and number.
8. VOC content.

- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.
 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.6 PROJECT CONDITIONS

- A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C).
- B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).
- C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.7 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
 1. Quantity: Furnish Owner with extra paint materials in quantities indicated below:
 - a. Exterior, Semigloss Acrylic Enamel: 1 gal. (3.8 L) of each color applied.
 - b. Interior, Low-Luster Acrylic Finish: 1 gal. (3.8 L) of each color applied.
 - c. Interior, Semigloss Acrylic Enamel: 1 gal. (3.8 L) of each color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.
- B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 1. Benjamin Moore & Co. (Benjamin Moore).

2. PPG Industries, Inc. (Pittsburgh Paints).
3. Sherwin-Williams Co. (Sherwin-Williams).

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. Colors: As selected by Architect from manufacturer's full range.

2.3 EXTERIOR PRIMERS

- A. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.
 1. Benjamin Moore; Moore's IMC Alkyd Metal Primer No. M06: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 2. Pittsburgh Paints; 90-712 Pitt-Tech One Pack Interior/Exterior Primer Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
 3. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).

2.4 INTERIOR PRIMERS

- A. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
 1. Benjamin Moore; Moorcraft Super Spec Latex Enamel Undercoater & Primer Sealer No. 253: Applied at a dry film thickness of not less than 1.2 mils (0.030 mm).
 2. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 3. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
- B. Interior Wood Primer for Acrylic-Enamel and Semigloss Alkyd-Enamel Finishes: Factory-formulated alkyd- or acrylic-latex-based interior wood primer.
 1. Benjamin Moore; Moorcraft Super Spec Alkyd Enamel Underbody and Primer Sealer No. 245: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).

2. Pittsburgh Paints; 6-855 SpeedHide Latex Enamel Undercoater: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 3. Sherwin-Williams; PrepRite Classic Interior Primer B28W101 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
- C. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.
1. Benjamin Moore; Moore's IMC Alkyd Metal Primer No. M06: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).
 2. Pittsburgh Paints; 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 3. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).

2.5 EXTERIOR FINISH COATS

- A. Exterior Semigloss Acrylic Enamel: Factory-formulated semigloss waterborne acrylic-latex enamel for exterior application.
1. Benjamin Moore; Moorcraft Super Spec Latex House & Trim Paint No. 170: Applied at a dry film thickness of not less than 1.1 mils (0.028 mm).
 2. Pittsburgh Paints; 6-900 Series SpeedHide Exterior House & Trim Semi-Gloss Acrylic Latex Paint: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
 3. Sherwin-Williams; A-100 Latex Gloss A8 Series: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).

2.6 INTERIOR FINISH COATS

- A. Interior Low-Luster Acrylic Enamel: Factory-formulated eggshell acrylic-latex interior enamel.
1. Benjamin Moore; Moorcraft Super Spec Latex Eggshell Enamel No. 274: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).
 2. Pittsburgh Paints; 6-400 Series SpeedHide Eggshell Acrylic Latex Enamel: Applied at a dry film thickness of not less than 1.25 mils (0.032 mm).
 3. Sherwin-Williams; ProMar 200 Interior Latex Egg-Shell Enamel B20W200 Series: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
- B. Interior Semigloss Acrylic Enamel: Factory-formulated semigloss acrylic-latex enamel for interior application.
1. Benjamin Moore; Moorcraft Super Spec Latex Semi-Gloss Enamel No. 276: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
 2. Pittsburgh Paints; 6-500 Series SpeedHide Interior Semi-Gloss Latex: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 3. Sherwin-Williams; ProMar 200 Interior Latex Semi-Gloss Enamel B31W200 Series: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application. Comply with procedures specified in PDCA P4.
 - 1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - 2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 - 1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
 - 2. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and reprime.
 - 2. Cementitious Materials: Prepare concrete, concrete unit masonry, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces if moisture content exceeds that permitted in manufacturer's written instructions.

3. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
 - a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 - b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
 - c. If transparent finish is required, backprime with spar varnish.
 - d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on back side.
 - e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

4. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
 - a. Blast steel surfaces clean as recommended by paint system manufacturer and according to SSPC-SP 6/NACE No. 3.
 - b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
 - c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.

- D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 3. Use only thinners approved by paint manufacturer and only within recommended limits.

- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
 1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 3. Provide finish coats that are compatible with primers used.

4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
 9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 10. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface .
1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer over metal surfaces that have been shop primed and touchup painted.
 3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items identified in divisions 15 and 16.
- F. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first

coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

- G. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- H. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.
- I. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

- A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
 - 1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
 - 2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 EXTERIOR PAINT SCHEDULE

- A. Ferrous Metal: Provide the following finish systems over exterior ferrous metal.
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a rust-inhibitive primer.
 - a. Primer: Exterior ferrous-metal primer (unless shop primed).
 - b. Finish Coats: Exterior semigloss acrylic enamel.

3.8 INTERIOR PAINT SCHEDULE

- A. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:
 - 1. Low-Luster Acrylic-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior gypsum board primer.
 - b. Finish Coats: Interior low-luster acrylic enamel.
- B. Wood and Hardboard: Provide the following paint finish systems over new interior wood surfaces:
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a wood undercoater.
 - a. Primer: Interior wood primer for acrylic-enamel and semigloss alkyd-enamel finishes.
 - b. Finish Coats: Interior semigloss acrylic enamel.
- C. Ferrous Metal: Provide the following finish systems over ferrous metal:
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
 - a. Primer: Interior ferrous-metal primer.
 - b. Finish Coats: Interior semigloss acrylic enamel.

END OF SECTION 099100

SECTION 133419 PRE-ENGINEERED METAL BUILDING SYSTEMS

PART 1 – GENERAL

1.3 SUMMARY

- A. The building shall consist of Pre-engineered primary and secondary structural members, connection bolts, framed openings, sheeting, trim, flashing, fasteners, gutters, downspouts, and other miscellaneous items and accessories as specified, shown, or called for on the project documents. Refer to the Current Edition of the Metal Building Systems Manual section entitled "Common Industry Practices" for the standards in which this guide will be used.
- B. Related Sections: The following sections contain requirements that relate to this section:
 - 1. Cast-in-Place Concrete specified in Division 3.

1.4 Dimensional Terminology

- A. The building "width" shall be the distance from outside face of sidewall girt to outside face of sidewall girt (steel line to steel line).
- B. The building "length" shall be the distance from outside face of end wall girt to outside face of end wall girt (steel line to steel line).
- C. The building "eave height" shall be the distance from finished floor to top of eave strut or purlin at the steel line. For buildings with curbs or column recesses, eave height shall still be measured from the finished-floor elevation.
- D. The "bay spacing" shall be the distance from center of primary frame to center of primary frame for interior bays. End bays shall be the distance from outside face of end wall girt (steel line) to center of first interior primary frame.
- E. The "module spacing" on frames with interior columns shall be the distance from outside face of sidewall girt (steel line) to center of first interior column. It is also the distance from center to center of interior columns for interior spans.
- F. The "roof slope" shall be based on an order-specified vertical rise for each 12" horizontal run unless otherwise stated.

1.5 System Description and Products

- A. Provide a complete, integrated metal building system capable of withstanding structural or other loads, thermal induced movement, and exposure to weather without failure or infiltration of water into the building interior. Include primary and secondary framing, metal roof panels, metal wall panels and accessories complying with requirements indicated.
 - 1. Provide metal building system of size and with spacings, slopes and spans indicated.
- B. Primary Framing Type: Solid-member, structural framing system. Primary frames tapered shaft, secondary columns straight shaft.
- C. End-wall Framing: Manufacturer's Standard, for buildings not required to be expandable. Columns and rafters shall be capable of supporting one half of a bay. All columns straight shaft.

- D. Secondary Frame Type: 8" Zee purlins and girts. Girts shall be bypass and Inset, as indicated. Eave struts shall be 8" Cee members. Material thickness shall be determined but no thinner than 16 gauge (0.059").
- E. Eave Height: As indicated on Drawings.
- F. Bay Spacing: As indicated on Drawings.
- G. Roof Pitch: As indicated on Drawings.
- H. Roof System: 26 gage steel, PBR galvalume, concealed fastener with major ribs 24" on center. Panel continuous from eave to ridge with die-formed ridge cap.
 - 1. Panel Exterior Finish: Galvalume.
 - 2. Panel Interior Finish: Manufacturer's standard.
 - 3. Insulation: 4" fiberglass with reinforced white vinyl backing.
- I. Wall Panel Exterior: 26 gage steel, standard exposed fastener panel for installation over steel purlins.
 - 1. Panel Exterior Finish: Fluoropolymer Two-Coat System.
 - 2. Panel Interior Finish: Manufacturer's standard.
 - 3. Insulation: 4" fiberglass with reinforced white vinyl backing.
- J. Wall Panel Interior: 26 gage steel, standard exposed fastener panel for installation over steel purlins.
 - 1. Panel Exterior Finish: Fluoropolymer Two-Coat System.
 - 2. Panel Interior Finish: Manufacturer's standard.
- K. Anchor Bolts: All required anchor bolts shall be provided by the Metal Building Manufacturer.

1.6 System Performance Requirements

- A. Structural Performance: Provide metal building system capable of withstanding the effects of gravity, seismic and wind loads and stresses within limits and under conditions indicated:
 - 1.Code: International building Code 2018
 - 2.Gravity Loads: As specified by MBM
 - 3.Roof Live Loads:
 - a. Frames: 12 PSF
 - b. Other: 20 PSF
 - 4.Wind Loads: Reference ASCE 7-16
 - a. Basic Wind Speed (3S gust) $V=127$ MPH (Figure 26.5-1B)
 - b. Nominal Wind Speed $V_{asd}= 99$ MPH
 - c. Risk Category = II
 - d. Exposure Category = B
 - e. Internal Pressure Coefficients: +0.18, -0.18
 - 5.Seismic Loads: Reference ASCE 7-16
 - a. Risk Category = II
 - b. Site Classification = D
 - c. Seismic Design Category = C
 - d. Importance Factor = 1.00

B. Serviceability Performance:

1. Primary
 - a. End wall Column: L/180
 - b. End wall Rafter (Live): L/180
 - c. End wall Rafter (Wind): L/180
 - d. Rigid Frame (Horiz): H/360
 - e. Rigid Frame (Vert): L/240
2. Secondary
 - a. Roof Purlin (Live): L/180
 - b. Roof Purlin (Wind): L/120
 - c. Wall Girt: L/120
3. Panel
 - a. Roof Panel (Live): L/180
 - b. Roof Panel (Wind): L/120
 - c. Wall Panel: L/120

C. All structural steel sections and welded plate members shall be designed in accordance with the Manual of Steel Construction, 13th Edition, American Institute of Steel Construction, Chicago, IL; and the latest edition of the Structural Welding Code – Steel, ANSI/AWS D1.1, American Welding Society.

D. All light gage cold-formed structural members and exterior covering shall be designed in accordance with the Cold-Formed Steel Design Manual, 2002 Edition, American Iron and Steel Institute. All standards for the welding of cold-formed members are based upon the latest edition of the Structural Welding Code– Sheet Steel, ANSI/AWS D1.3, American Welding Society.

E. Load Combinations: All load combinations set forth by the Building Code shall be considered. No pattern loads, skip loads and/or end zone wind pressure loads shall be omitted.

1.7 Submittals

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles and finishes for each type of the following metal building components:

1. Structural Framing System
2. Metal Roof Panel
3. Metal Wall Panels
4. Vapor Retarders
5. Insulation
6. Flashing and Trim
7. Accessories

B. Drawings: For the following metal building system components. Include plans, elevations, sections, details and attachments to other work.

1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
2. Anchor Bolt Drawings: Submit anchor bolts plans before foundation work begins. Include location, diameter and projection of anchor bolts required to attach metal building to foundation. Indicate column reactions at each location. Drawings shall be sealed by qualified professional engineer responsible for their preparation.

3. Structural Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate all connections; distinguish between shop and field applications. Include transverse cross-sections. Drawings and calculations shall be sealed by qualified professional engineer responsible for their preparation.
4. Metal Roof and Wall Panel Layout Drawings: Show layouts of metal panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashing, closures and special details.
 - a. Show wall mounted items including doors, windows, and louvers.
 - b. Accessory Drawings: Include details of the following items:
 - i. Flashing and trim
 - ii. Gutters
 - iii. Downspouts
 - iv. Louvers
- C. Samples for Initial Selection: For each type of building component with factory applied color finish.
- D. Building Manufacturer shall be accredited by IAS 472 (Part A, Part B and Part C). Current certifications shall be provided prior to the bid.
- E. Shop primers
- F. Warranties
- G. Shop Welder's Certifications
- H. Shop Weld Quality Program: All welding procedures and personnel shall be qualified in accordance with AWS D1.1, "Structural Welding Code-Steel" and AWS D1.3, "Structural Welding Code- Sheet Steel".

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, sheets, panels and other manufactured items so as not to be damaged or deformed. Package metal panel for protection during transportation and handling.
- B. Unload, store and erect metal panels in a manner to prevent bending, warping, twisting and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weather tight and ventilated covering. Store metal panels to ensure dryness and with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting or other surface damage.

1.9 WARRANTY/GUARANTEE

- A. Roofing and Siding Panel Warranty: Furnish the roofing and siding panel manufacturer's written warranty, covering failure of the metal wall and roof panels within the warranty periods. This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents. Under the warranty, repair or replace work which becomes defective or fails within the warranty periods specified below at no additional expense to the Owner.
- B. Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to

repair finish or replace metal panels that show evidence of deterioration of factory applied finishes within specified warranty period.

- C. Exterior Roof and Wall panels shall have a 20 year finish warranty.
- D. Roof and Wall Panels shall have a 2 year weathertight warranty.

PART 2 – FABRICATION & ERECTION

2.3 FABRICATION

- A. General: Design components and field connections required for erection to permit easy assembly.
 - 1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams and erection manual.
 - 2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape and location. Members shall be free of cracks, tears and ruptures.
- B. Tolerances: Comply with MBMA's "Metal Buildings Systems Manual": Chapter IV, Section 9, "Fabrication and Erection Tolerances."
- C. Metal Panels: Fabricate and finish metal panels at the factory to the greatest extent possible. Comply with indicated profiles and with dimensional and structural requirements.

2.4. STRUCTURAL FRAMING

- A. General:
 - 1. Primary Framing: Shop fabricated framing components to indicate size and section with base plates, bearing plates, stiffeners and other items required for erection welded into place. Cut, form, punch, drill and weld framing for bolted field assembly.
 - a. Make shop connections by welding or by using high strength bolts.
 - b. Join flanges to webs of built up members by a continuous submerged arc welding process.
 - c. Brace compression flange of primary framing with steel angles.
 - d. Weld clips to frames for attaching secondary framing members.
 - e. Shop priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary structural members with standard primer after fabrication.
 - f. Secondary Framing: Shop fabricate framing components to indicated size and section by roll-forming or break forming, with base plates, bearing plates, stiffeners and other items required for erection welded into place. Cut, form, punch, drill and weld secondary framing for bolted field connection to primary framing.
 - i. Make shop connections by welding or by using bolts.
 - ii. Shop priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated secondary structural members with specified primer after fabrication.
 - C. Metal Panels: Fabricate and finish metal panels at the factory to the greatest extent possible. Comply with indicated profiles and with dimensional and structural requirements.

2.4. STRUCTURAL FRAMING

- A. General:

1. Primary Framing: Shop fabricated framing components to indicate size and section with base plates, bearing plates, stiffeners and other items required for erection welded into place. Cut, form, , drill and weld framing for bolted field assembly.
 - a. Make shop connections by welding or by using high strength bolts.
 - b. Join flanges to webs of built up members by a continuous submerged arc welding process.
 - c. Brace compression flange of primary framing with steel angles.
 - d. Weld clips to frames for attaching secondary framing members.
 - e. Shop priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary structural members with standard primer after fabrication.
 - f. Secondary Framing: Shop fabricate framing components to indicated size and section by roll-forming or break forming, with base plates, bearing plates, stiffeners and other items required for erection welded into place. Cut, form, punch, drill and weld secondary framing for bolted field connection to primary framing.
 - i. Make shop connections by welding or by using bolts.
 - ii. Shop priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated structural members with specified primer after fabrication.

- E. Factory Primed Finish: Apply specified primer immediately after cleaning and pre-treating.
 1. Prime all primary and secondary members to a minimum dry film thickness of 1 mil.

PART 3 - EXECUTION

3.1 ERECTION

- A. Framing: Erect framing true to line, level, plumb, rigid, and secure. Level base plates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use a nonshrinking grout to obtain uniform bearing and to maintain a level base line elevation. Moist cure grout for not less than 7 days after placement.
- B. Purlins and Girts: Provide rake or gable purlins with tight-fitting closure channels and fascias. Locate and space wall girts to suit door and window arrangements and heights. Secure purlins and girts to structural framing and hold rigidly to a straight line by sag rods.
- C. Bracing: Provide diagonal cable, rod or angle bracing in roof and sidewalls as required.
 1. Moment-resisting frames may be used in lieu of sidewall bracing, to suit manufacturer's standards.
 2. No diaphragm resistance shall be considered.
- D. Framed 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 building structural frame.

3.2 ROOFING AND SIDING

- A. General: Comply with all manufacturers' instructions and recommendations for installation of materials, as applicable to project conditions and supporting substrates. Anchor panels and other components of the work securely in place, with provisions for thermal and structural movement.
 1. Field cutting of exterior panels by torch is not permitted.

2. Install panels with concealed fasteners.
 3. Provide for thermal movement.
 4. Do not allow panels to be stretched or distorted during installation.
 5. Attach panels only as recommended by the manufacturer to prevent oil canning.
 6. Arrange and nest sidelap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line. Protect factory finishes from damage.
 7. Provide weatherseal under ridge cap. Flash and seal roof panels at eave and rake with rubber, neoprene, or other closures to exclude weather.
- B. Roof Panel System: Fasten roof panels to purlins with screws in accordance with the manufacturer's instructions for a weathertight and structurally sound installation. Seal all end laps.
- C. Wall Sheets: Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete and elsewhere as necessary for waterproofing. Handle and apply sealant and backup in accordance with the sealant manufacturer's recommendations.
1. Align bottom of wall panels and fasten panels with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws. Fasten window and door frames with machine screws or bolts. When building height requires two rows of panels at gable ends, align lap of gable panels over wall panels at eave height.
 2. Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
 3. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.
- D. Sheet Metal Accessories: Install gutters, downspouts, and other sheet metal accessories in accordance with manufacturer's recommendations for positive anchorage to building and weathertight mounting. Adjust operating mechanism for precise operation.
1. Gutters: Where shown on the Drawings, attach gutters securely with cradles that are spaced 36" on centers. Slope gutters to downspouts at a uniform rate of 1/16 inch per foot. When there are more than one downspout, hang gutters with high points equidistant from the downspouts. Lap sections a minimum of 1 inch in the direction of water flow. Terminate gutters 1/2 inch from vertical surfaces. Provide slip-type expansion joints midway between outlets
 2. Downspouts: Where shown on the Drawings, install with a straps securely attached to the structure. For downspouts up to 10' long, attach straps at the top and bottom. For downspouts 10 to 20' long, attach at the top and bottom and at the mid-point. For downspouts greater than 20', attach at the top and bottom and at intermediate points spaced no more than 10' on center. Keep downspouts a minimum of 1/2" from the wall.
- E. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10' with no joints allowed within 24" of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1" deep, filled with mastic sealant (concealed within joints).
- G. Thermal Insulation: Install insulation according to Manufacturer's recommendations.
- H. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of panel systems. Provide types of gaskets, sealants, and fillers indicated or, if not otherwise indicated, types recommended by panel manufacturer.
1. Provide weather seal under ridge cap. Flash and seal roof panels at eave and rake with rubber,

neoprene, or other closures to exclude weather.

2. Apply a continuous ribbon of sealant tape to clean, dry surface of the weather side of fastenings on end laps, and on side laps of corrugated nesting-type, ribbed, or fluted panels and elsewhere as needed to make roof sheets weatherproof to driving rains.
- I. Installation Tolerances: Shim and align panel units within installed tolerance of 1/4 inch in 20 ft on level/plumb/slope and location/line as indicated, and within 1/8" offset of adjoining faces and of alignment of matching profiles.
- J. Cleaning and Touch-Up: Clean component surfaces of matter that could preclude paint bond. Touch up abrasions, marks, skips, or other defects to shop-primed surfaces with same type material as shop primer.
- K. Grounding: Metal siding and supporting elements shall be electrically continuous-grounded to structural framing in accordance with governing code. The conductor used to ground the siding shall have no greater resistance than the conductor used to ground the electrical system within the building.

3.3 CLEANING AND PROTECTION

- A. Cleaning:
 1. Remove temporary protective coverings and strippable films (if any) as soon as each panel is installed. Upon completion of panel installation, clean finished surfaces as recommended by panel manufacturer, and maintain in a clean condition during construction.
 2. Remove excess sealing materials from adjacent surfaces. Clean surfaces using procedures recommended by the sealing material manufacturer.
- B. Painting: After erection, touch-up all marred, scratched or otherwise defaced factory finished and shop primed surfaces installed under this section with paint recommended by primer manufacturer.
- C. Damaged Units: Replace panels and other components of the work that have been damaged or have deteriorated beyond successful repair by means of finish touch-up or similar minor repair procedures.

END OF SECTION 133419

BID FORM

Statesboro-Bulloch County Airport Roof Terminal Replacement

- 1. Bid Price for Material Cost: \$ _____
- Bid Price for Labor Cost: \$ _____
- Shipping Cost (if any): \$ _____
- Grand Total for Complete Job: \$ _____

GRAND TOTAL IN WORDS: _____

2. Does your bid comply with our specifications? (If answer is no, use exceptions to specifications form.)

_____ Yes _____ No

3. Estimated number of days needed before actual work begins? _____

4. Estimated number of days needed to complete project? _____

Company Name: _____

Company Address: _____

Signature of Representative: _____

Printed Name of Representative: _____

Title: _____

Telephone Number: _____ Fax Number: _____

E-mail Address: _____

Date: _____

**BULLOCH COUNTY, GEORGIA
NON-COLLUSION AFFIDAVIT**

The following affidavit is to accompany the bid:

STATE OF:

COUNTY OF:

Owner, Partner or Officer of Firm:

Company Name, Address, County and State:

The undersigned, being of lawful age, being first duly sworn, on oath says that he/she is the agent authorized by the vendor to submit the attached proposal. In making such representation, affiant further states for himself/herself and on behalf of vendor, that they have not been a party to any collusion among vendors in restraint of competition by agreement to submit a bid or proposal at a fixed price or to refrain from proposing; or with any office of Bulloch County or any of their employees as to quantity, quality or price in the prospective contract; or any discussion between vendors and any official of Bulloch County or any of their employees concerning exchange of money or other things of value for special consideration in submitting a sealed bid for:

FIRM NAME _____

SIGNATURE _____

TITLE _____

Subscribed and sworn to before me this _____ day of _____ 20_____.

NOTARY PUBLIC _____

**BULLOCH COUNTY, GEORGIA
BIDDER DECLARATION**

The bidder understands, agrees and warrants:

That the bidder has carefully read and fully understands the full scope of the specifications.

That the bidder has the capability to successfully undertake and complete the responsibilities and obligations in said specifications.

That this bid shall be valid for 60 days.

That this bid may be withdrawn by requesting such withdrawal in writing at any time prior to **May 27, 2021 @ 3:00pm**, but may not be withdrawn after such date and time for a period of 60 days.

That Bulloch County reserves the right to reject any or all bids and to accept that bid or bids which will, in its opinion, best serve the public interest. Bulloch County reserves the right to waive any technicalities or informalities in the bidding.

That by submission of this bid the bidder acknowledges that Bulloch County has the right to make any inquiry or investigation it deems appropriate to substantiate or supplement information supplied by the bidder.

VENDOR:

Name Title

Name Title

AFFIX CORPORATE SEAL (if applicable)

Subscribed and sworn to before me this _____ day of _____ 20____.

NOTARY PUBLIC _____

CONTRACTOR E-VERIFY AFFIDAVIT AND AGREEMENT

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm, or corporation which is contracting with Bulloch County, Georgia has registered with and is participating in a federal work authorization program* [any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicability provisions and deadlines established in O.C.G.A. § 13-10-91.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with Bulloch County, Georgia, contractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. § 13-10-91 on the Subcontractor Affidavit provided in Georgia Department of Labor Rule 300-10-01-.08 or a substantially similar form. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to Bulloch County, Georgia at the time the subcontractor(s) is retained to perform such service. Call 1(888)464-4218 with questions about e-verify.

EEV/Basic Pilot Program* E-verify Company ID#

Date of Authorization

Company Name

By: _____
Authorized Officer or Agent (Contractor Name)

Date

Title of Authorized Officer or Agent of Contractor

Printed Name of Authorized Officer or Agent

Name of Project

Bulloch County, Georgia

Name of Public Employer

SUBSCRIBED AND SWORN BEFORE ME ON THIS
THE ____ DAY OF _____, 20__.

Notary Public
My Commission Expires:

* As of the effective date of O.C.G.A. § 13-10-91, the applicable federal work authorization program is the "EEV/Basic Pilot Program" operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

Check List

The items listed below must be completed and returned with the sealed bid. Failure to return any of the items listed will be just cause for not accepting the submitted bid.

- 1. Page 3 – Certificate of Liability Insurance
- 2. Page 3 – Bid Bond for 5% of total bid price
- 3. Page 43 – Exceptions to Specifications Sheet
- 4. Page 44 – Bid Form
- 5. Page 45 – Non-Collusion Affidavit
- 6. Page 46 – Bidder Declaration
- 7. Page 47 – Contractor E-verify Affidavit

BULLOCH COUNTY, GEORGIA
Short-Form Construction Contract - Example

AGREEMENT

This Agreement is made and entered into this ____ day of _____, 20__, by and between **BULLOCH COUNTY**, a political subdivision of the state of Georgia, acting by and through its governing authority, the Bulloch County Board of Commissioners (hereinafter "the County") and _____ (hereinafter "the Contractor").

The County and the Contractor hereby agree as follows:

1. Scope of Work; Specifications. The Contractor shall furnish all labor, materials, and equipment and perform all of the work for the Project described as

(DESCRIBE PROJECT)

as set forth in this Agreement and in the scope of work, specifications, drawings, or other documents identified as:

- A.
- B.
- C.

The above-described documents are incorporated herein by reference and are as much a part of this Agreement as if fully set forth herein. Provided, however, that in the event of any conflict or ambiguity between the body of this Agreement and any above-described document, the body of this Agreement shall govern.

2. Time for Completion. The work shall commence no later than __ calendar days of the County's issuance of a notice to proceed and shall be completed no later than __ calendar days thereafter. Time is of the essence of this contract.

3. Contract Sum. The County shall pay the Contractor for the performance of the work in total the sum of \$_____.

4. Progress Payments. The County shall make monthly progress payments on account of the contract if requested, less retainage of 10%, based upon the Contractor's submission to the County of an invoice detailing the work completed. The period covered by each invoice shall be one calendar month ending on the last day of the month, and payment shall be due within fifteen (15) days of the County's receipt of the invoice; provided, however, that payments otherwise due may be withheld by the County on account of, but not necessarily limited to, the following reasons: unsatisfactory job progress; defective construction which has not been remedied; disputed work; third-party claims filed or reasonable evidence that a claim will be filed; failure of the Contractor or its subcontractors to make timely payments for labor, equipment, and materials; damage caused by the Contractor to the County, other contractors, or subcontractors; or reasonable evidence that the contract cannot be completed for the unpaid balance of the Contract Sum.

5. Acceptance and Final Payment. Final payment shall be due thirty (30) days after completion of the work and acceptance by the County, subject to the County's right to withhold payment for the reasons stated in Section 4 of this Agreement.

6. Contract Documents. The contract includes this Agreement and any scope of work, specifications, drawings, or other documents incorporated herein by reference. This includes, but is not necessarily limited to, any documents attached to this Agreement as an exhibit. The intent of these documents is to include all

labor, materials, appliances and services of every kind necessary for the proper execution of the work, and the terms and conditions of payment therefor. The documents are to be considered as one, and whatever is called for by any one of the documents shall be as binding as if called for by all. Any conflict or ambiguity between the body of this Agreement and any document incorporated herein by reference shall be governed by the body of this Agreement. The Contractor shall be responsible for verifying any and all measurements set forth in the Contract Documents before commencing any work hereunder.

7. Materials, Appliances and Employees. Except as otherwise noted, the Contractor shall provide and pay for all materials, labor, tools, water, power and other items necessary to complete the work. Unless otherwise specified, all material shall be new, and both workmanship and materials shall be of good quality. All workmen and subcontractors shall be skilled in their trades.

8. Permits, Licenses and Regulations. The Contractor shall secure and pay for all permits and licenses necessary for the prosecution of the work. The Contractor shall comply with all laws and regulations bearing on the conduct of the work and shall notify the County if the Contract Documents are at variance therewith.

9. Protection of Work, Property and Persons. The Contractor shall adequately protect the work, adjacent property and the public and shall be responsible for any damage or injury due to his act or neglect.

10. Access to Work. The Contractor shall permit and facilitate the observation of the work by the County and its agents and public authorities at all times.

11. Changes in the Work. The County may order changes in the work, the Contract Sum and time for completion being adjusted accordingly. All such orders and adjustments shall be in the form of a written change order to the contract executed by both the County and the Contractor. Claims by the Contractor for extra cost must be made in writing before executing the work involved.

12. Correction of Work. The Contractor shall re-execute any work that fails to conform to the requirements of the contract and that appears during the progress of the work, and shall remedy any defects due to faulty materials or workmanship which appear within a period of one year from the date of completion of the contract and final acceptance of the work by the County unless the manufacturer of the equipment or materials has a warranty for a longer period of time, which warranties shall be assigned by Contractor to County. The provisions of this article apply to work done by subcontractors as well as to work done by direct employees of the Contractor.

13. Liquidated Damages. The County and the Contractor agree that time is of the essence of this contract and that the County's damages will be difficult or impossible to estimate should the Contractor fail to complete the Project within the specified time. Therefore, should the Contractor fail to complete the Project within the specified time, the County and the Contractor agree that the Contractor shall pay to the County the sum of \$ 0 per day as liquidated damages, and not as a penalty, for each calendar day that the Project continues beyond the specified completion date. The County shall have the right to withhold any liquidated damages from amounts otherwise due the Contractor.

14. No Damages for Delay. In the event that the Contractor is delayed in the performance of the Project for any reason whatsoever, including but not limited to action or inaction of the County, another contractor or subcontractor, the Contractor shall not be entitled to any damages from the County for such delay, but the Contractor's sole remedy shall be an extension of time.

15. County's Right to Terminate Contract.

A. Termination for Cause. Should the Contractor neglect to prosecute the work properly, or fail to perform any provision of the contract, the County, after seven (7) days' written notice to the Contractor and its surety, if any, may, without prejudice to any other remedy the County may have, make good the deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor or, at the County's option, may terminate the contract and take possession of all materials, tools and appliances,

and finish the Project by such means as the County sees fit; and if the unpaid balance of the Contract Sum exceeds the expense of finishing the Project, such excess shall be paid to the Contractor, but if such expense exceeds such unpaid balance, the Contractor shall pay the difference to the County.

B. Termination for Convenience. The County shall also have the right to terminate this contract at any time for any reason by giving at least thirty (30) days' written notice to the Contractor. In such event, the Contractor will be paid a fair and reasonable payment as determined by the County for the work completed as of the date of termination.

16. Insurance. Contractor shall purchase from and maintain with a company or companies authorized to do business in the state of Georgia the following types of insurance:

- A. Statutorily required workers' compensation insurance.
- B. Commercial general liability insurance, **with an endorsement naming the County and its officials, officers, and employees as additional insureds**, and with limits of not less than \$1,000,000.00 per occurrence and \$2,000,000.00 aggregate.
- C. Motor vehicle liability insurance with limits of not less than \$1,000,000.00 for bodily injury to or death of one person in any one accident, and not less than \$2,000,000.00 because of bodily injury to or death of two or more persons in any one accident; and not less than \$250,000.00 because of injury to or destruction of property.

17. Builder's Risk Insurance. If required, as indicated below, either the County or the Contractor shall purchase and maintain, with a company authorized to do business in the state of Georgia, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the County has an insurable interest in the Project. The insurance shall include interests of the County, the Contractor, Subcontractors and Sub-subcontractors in the Project and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements. The County's purchase of builder's risk through the ACCG-IRMA interlocal risk pool shall satisfy any obligation the County may have under this Section. Builder's Risk Insurance shall be provided as follows:

- () Not required.
- () Furnished by County.
- (X) Furnished by Contractor.

18. Payment and Performance Bonds. If indicated below, the Contractor shall furnish to the County prior to the start of construction payment and performance bonds in an amount equal to one hundred percent (100%) of the Contract Sum from a surety licensed to do business in the state of Georgia.

- A. Payment Bond: Required (X) Not Required ()
- B. Performance Bond: Required (X) Not Required ()

19. Separate Contracts. The County has the right to let other contracts in connection with the Project and the Contractor shall properly cooperate with any such other contractors.

20. Attorney's Fees and Expenses. Should the Contractor default in any of the provisions of this Agreement, and should the County employ an attorney to enforce any provision hereof or to collect damages for breach of this Agreement or to recover on any payment or performance bond furnished by the Contractor, the Contractor and its surety agree to pay the County such reasonable attorney's fees and expenses of litigation as the County may expend herein.

21. Cleaning Up. The Contractor shall keep the premises free from accumulation of waste material and rubbish and at the completion of the Project he shall remove from the premises all rubbish, implements and surplus materials and leave the Project premises broom-clean.

22. Indemnification. The Contractor agrees to indemnify, hold harmless, and defend the County, its officials, and employees (hereinafter collectively "the indemnitees") from and against any and all claims, damages, liabilities, suits, proceedings, costs, and expenses of litigation (including, without limitation, reasonable attorney's fees) related to or arising in any way out of the performance of this Agreement, unless such is attributable to the sole negligence of the indemnitees. The indemnity obligation of the Contractor will survive the expiration or termination of this Agreement.

23. Prevailing Wages. The hourly minimum rate of wage which may be paid to laborers, workers or mechanics in each trade or occupation to be employed in the performance of this Agreement shall not be less than such specified hourly minimum rate of wage in the performance of this Agreement as required by law.

24. Notices. Any notices required or permitted pursuant to this Agreement shall be in writing and may be affected by U.S. mail or by facsimile. Mailed notices shall be deemed to have been received on the date of acknowledgment on any return receipt or three days after deposit in the U.S. mail with proper postage affixed, whichever date is earlier. Notices by facsimile shall be deemed to have been received on the date on the sending party's facsimile confirmation sheet.

Notices to the COUNTY shall be sent to the following address:

Bulloch County Board of Commissioners
P.O. Box 347
Statesboro, GA 30459
Attn: County Manager
Fax #: (912) 764-8634

With a copy to:

Jeff S. Akins, Esq.
County Attorney
P.O. Box 347
Statesboro, GA 30459
Fax #: (912) 764-8634

Notices to the CONTRACTOR shall be sent to the following address:

25. No Waiver. No failure on the part of either party to this Agreement at any time to require performance by the other party of any term of this Agreement shall be taken or held to be a waiver of such term or in any way affect such party's right to enforce such term, and no waiver on the part of either party of any term of this Agreement shall be taken or held to be a waiver of any other term hereof or the breach

thereof.

26. Assignment. This Agreement may not be assigned by either party without the written consent of the other party, and any purported assignment without such written consent shall be null and void. In the event of a valid assignment, this Agreement shall be binding upon and inure to the benefit of the respective successors and assigns of the parties hereto.

27. Immunity. Nothing contained in this Agreement shall be construed or deemed to be a waiver of any immunity to which the parties, their officials, or employees are legally entitled.

28. Legal Construction; Severability. This Agreement shall be governed by the laws of the state of Georgia. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement and this Agreement shall be construed as if the invalid, illegal, or unenforceable provision had never been contained in it.

29. Entire Agreement; Amendment. This Agreement represents the entire agreement between the parties with respect to the subject matter hereof, and all prior agreements relating to the subject matter hereof, whether written or oral, are nullified and superseded hereby, and neither party shall have any further rights or obligations under such superseded agreements. This Agreement may be amended or supplemented only by the mutual consent of the contracting parties in writing signed by all parties to this Agreement.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the day and year first above written.

CONTRACTOR

BULLOCH COUNTY

By: _____

By: _____

County Manager

Title: _____

Attest: _____

Attest: _____

County Clerk

Title: _____