

DeKalb County Department of Purchasing and Contracting

April 9, 2018

REQUEST FOR PROPOSALS (RFP) NO. 18-500478

FOR

JAIL FIRE ALARM SYSTEM REPLACEMENT

Senior Procurement Agent: Randy Webb Phone: 404-371-2019

Email: rwebb@dekalbcountyga.gov

Mandatory DeKalb First LSBE Meeting: April 11, 2018; April 18, 2018

(Bidders must attend 1 meeting on either 4572 Memorial Drive, Decatur, Georgia 30032

of the dates listed.)

Main Conference Room - A

(Meetings are held at 10:00 a.m. and 2:00 p.m.) Video Conference: Utilize the link supplied on our

webpage labeled "DeKalb First LSBE Video

Meeting"

Mandatory Pre-Proposal Conference and

4415 Memorial Dr., Decatur, GA 30032

Site Visit:

10:00 A.M. ET, April 30, 2018

Deadline for Submission of Questions:

5:00 P.M. ET, May 2, 2018

Deadline for Receipt of Proposals:

3:00 P.M. ET, May 15, 2018

THE RESPONSIBILITY FOR SUBMITTING A RESPONSE TO THIS RFP TO THE DEPARTMENT OF PURCHASING AND CONTRACTING OF DEKALB COUNTY GOVERNMENT ON OR BEFORE THE STATED DATE AND TIME WILL BE SOLELY AND STRICTLY THE RESPONSIBILITY OF THE RESPONDER.

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DeKalb County Department of Purchasing and Contracting

Maloof Administration Building, 1300 Commerce Drive, 2nd Floor, Decatur, Georgia 30030

April 9, 2018

REQUEST FOR PROPOSAL (RFP) No. 18-500478

FOR

JAIL FIRE ALARM SYSTEM REPLACEMENT

DEKALB COUNTY, GEORGIA

DeKalb County Government (the County) requests qualified individuals and firms with experience in providing enterprise fire alarm systems to submit proposals for RFP No. 18-500478 for Jail Fire Alarm System Replacement at the DeKalb County Jail.

I. GENERAL

A. Summary

- 1. This Section describes the requirements for the design and construction for a replacement of the fire detection and alarm systems for the DeKalb County Jail.
- 2. This Section further describes a full replacement of the fire detection and alarm system in all housing towers and support spaces to provide a totally new, integrated and fully functional system. This document provides for the minimum requirements for the Life Safety System. It is not intended to restrict new technologies or alternative arrangements; provided, that the level of protection prescribed is not lowered.
- 3. The work provided shall include, but is not limited to, furnishing all design, approvals and permits, equipment, devices, software, wiring & conduit, miscellaneous materials, interfaces, delivery, labor, documentation, testing and services necessary to design, furnish and install a complete and operational system.
- 4. Related Information Described Elsewhere: This Section forms the basis of design and construction for the replacement system. This Section along with all other proposal requirements and proposer information form the whole basis for selection, design and construction.

5. The following Required Documents Checklist includes a list of attachments which **must** be completed and returned with Responder's technical proposal:

Required Documents	Attachment
Cost Proposal Form (1 copy, separate &	A
sealed)	
Bid Bond Form	В
Proposal Cover Sheet	C
Contractor Reference and Release Form	D
Subcontractor Reference and Release Form	E
(make additional copies as needed)	
LSBE Documents – Exhibits A and B	F
Responder Affidavit	G
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Exceptions to the Standard County	
Contract, if any	
Business License	
Certifications	
NICET 3	
 manufacturer's certification that the 	
submitted equipment will meet or	
exceed the site-specific system	
performance requirements	
 required professional Engineering 	
stamps/certifications and all	
contractor's license requirements to	
comply with DeKalb County and	
the Authority Having Jurisdiction	
(AHJ)	

6. The services shall commence within ten (10) calendar days after acknowledgement of receipt of written notice to proceed.

B. Compliance Requirements

- 1. Reference Codes and Standards
 - a. NFPA 72- National Fire Alarm and Signaling Code.
 - b. NFPA 101- Life Safety Code.
 - c. International Building Code (IBC), 2012 Edition
 - i. Georgia IBC Amendments, 2014, 2015, 2017
 - d. International Fire Code (IFC), 2012 Edition
 - i. Georgia IFC Amendments, 2014

- e. National Electric Code (NEC), 2014 Edition
- f. ADAAG Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities.
- g. Georgia Accessibility 2015, RULES OF OFFICE OF INSURANCE AND SAFETY FIRE COMMISSIONER CHAPTER 120-3-20 ACCESS TO AND USE OF PUBLIC FACILITIES BY HANDICAPPED PERSONS
- h. UL Underwriters Laboratories, Inc
- i. FM Factory Mutual.

2. Process, Review and Permitting

- a. The Contractor will be responsible for scheduling and following all review and approval processes of the Authority Having Jurisdiction (AHJ)
- b. The Contractor is required to thoroughly inspect and document the existing conditions and prepare all necessary plans and drawings as will be required for design reviews, design presentations, permitting and construction.
- c. Special Meetings and Reviews: (Not including AHJ process and permitting reviews)
 - i. MANDATORY Pre-Proposal Conference and Site Visit
 - ii. Prime Contractors must attend a MANDATORY LSBE Meeting in person or via video conference within two weeks of advertisement.
 - iii. Interviews
 - iv. Post-Award Project Notice to Proceed
 - v. PM/County Design Review
 - vi. Pre-Installation Meeting
 - vii. Weekly Construction Coordination meetings.
- d. The Contractor is to procure all necessary approvals and permits with the AHJ. The Contractor is to pay for all processing fees, permits and other associated cost and is to inform the County Representative a week in advance of all scheduled, meetings, presentations, and review(s) meeting(s) with AHJ.
- e. The Contractor is to notify, include, and perform all tests in the presence of the County Representative. Notification of time and place is to be given ten (10) days in advance.

3. Design and Certification

a. The Contractor will be responsible for providing all required professional Engineering stamps/certifications and all contractor's license requirements to comply with DeKalb County and the Authority Having Jurisdiction (AHJ), so as, to secure all approvals, permits and reviews required and necessary.

C. Contractor Qualifications

1. Contractor's Business License: A copy of the Contractor's valid State of Georgia License. The contractor must be licensed in the state of project location and have been incorporated in the business in that state for a

minimum of five (5) years.

- 2. Proof of Experience: Proof that Contractor has successfully installed similar systems for fire detection, evacuation voice, and visual signaling control components on previous projects of comparable size and complexity.
- 3. Service Capability: The fire alarm contractor shall have in-house or local Engineer, installation and service personnel with a maintenance office within 50 miles of the project location.
- 4. Equipment Manufacturer Authorization Letters: Letters from the (all) equipment manufacturer(s) stating that the Contractor is a Factory Authorized Distributor and Installer, and is trained and certified for the equipment proposed on this project and is licensed to purchase and install the software required to provide the specified functions.

5. Certifications:

- a. Provide a copy of the National Institute for Certification in Technologies (NICET) Technician Level 3 Certificate for the project Engineer actively proposed for the project.
- b. Documentation that the Contractor has on staff personnel factory-trained and certified for the equipment proposed for this project.

D. Proposal Document Requirements and Submittals

1. System Narrative

- a. Describe the replacement system in narrative format with sufficient detail to determine the full scope of the proposal. At a minimum, the narrative is to include:
 - i. Table of Contents
 - ii. System description and functionality
 - iii. Project Personnel with qualifications to include: Project Director/PM, Design Engineer and Lead Technician/Installer.
 - iv. Duration and phasing of project
- 2. Licenses and Certifications: Include all licensing, letters, proofs and certifications as required by Section I.C.
- 3. Product Listing: Provide a detailed list of all components and devices for the complete system. Each part, device or component shall include a listing number, detailed description, manufacturer, manufacturer part number and page number of Product Data Sheet.

4. Fire Alarm Product Data

a. Submit technical information consisting of annotated catalog sheets of each

- specified device inserted in a 3-ring binder in the same order as the devices appear in the product listing.
- b. Submit manufacturer's certification that the submitted equipment will meet or exceed the site-specific system performance requirements.

5. Proposal Drawings

 Contractor shall include drawings and diagrams to sufficiently describe project understanding, scope of project, and interface with all related and required systems.

II. SCOPE OF WORK

- A. The term "Work" means the construction, labor, materials, equipment, tools, machinery, testing, temporary services and utilities, supervision, administration, coordination, planning, insurance, bonds, transportation, security, and all other services and things necessary to provide the County with the facilities, improvements, features, and functions in strict conformity with the General Requirements attached hereto in Appendix 2, and as described in the Specifications appended to the Bid Document Package as Appendix 1, and the Drawings that will be made available for viewing at 10:00 AM on April 30, 2018 and May 1, 2018. To view the Drawings/Plans, attendees must sign a County non-disclosure agreement prior to viewing the Drawings/Plans. The Contractor agrees to complete the Work in a good, firm, substantial and workmanlike manner in strict conformity with this Contract.
 - (1) The Work relates to the following Project: RFP 18-500478 for Jail Fire Alarm System Replacement

General:

Provide all, materials, equipment, labor and transportation necessary to complete a full replacement of the fire detection alarm system and related interfaces in all housing towers and support spaces to provide a totally new, integrated, and fully functional system. Work shall include but not be limited to the Specifications appended to the Bid Document Package as Appendix 1, and the Drawings that will be made available for viewing at 10:00 AM on April 30, 2018 and May 1, 2018.:

(2) Work not included in this Contract: N/A

B. Equipment

- 1. System Components.
 - a. System shall be a (non-proprietary) Analog Addressable Fire Alarm and Control system.
 - b. The basis of acceptable performance and acceptance are systems that are designed, engineered, and manufactured by a single manufacturer.
 - i. Basis of Performance: EST; Edwards Systems Technology or any other non-proprietary system.

- c. All equipment and system components furnished and installed shall be new and listed by ULI for their intended use. The equipment and system components shall be installed in accordance with the applicable codes and standards, the manufacturers' recommendations and within the limitations of the ULI listings. All equipment and system components shall predominantly be the standard product of a single manufacturer unless the submittals clearly indicate additional products that are required to meet the minimum requirements or an improved performance standard. Evidence of ULI listing is required for all components.
- d. The system shall include, but not be limited to the following:
 - i. Remote Annunciator.
 - ii. Serial printer.
 - iii. Addressable detention style manual pull stations.
 - iv. Addressable smoke detectors.
 - v. Addressable duct detectors.
 - vi. Addressable heat detectors.
 - vii. Addressable sprinkler water-flow/tamper modules.
- viii. Remote booster power supplies.
- ix. Distributed audio amplifiers.
- x. Air handling system shutdown control.
- xi. Smoke exhaust systems startup control (compatible with new system).
- xii. Stair pressurization system startup control (compatible with new system).
- xiii. Sprinkler supervisory switches and tamper switch supervision.
- xiv. Emergency generator supervision (compatible with new system).
- xv. Fire-pump supervision (compatible with new system).
- xvi. Alarm output relays (compatible with new system).
- xvii. On-site graphics workstation.
- xviii. Horns and strobes.

e. Cabling:

- i. All cabling used in the fire alarm system for fire data, fire panel communication data, fire audio, and fire strobe shall be in compliance with all federal state and local laws, codes and regulations:
- ii. All cables run in underground conduit shall be rated for direct burial.
- iii. Cable installation shall be as follows:
- iv. All cabling shall be physically protected.
- v. All cabling shall be installed per NEC and local codes.
- vi. All cabling shall comply with NEC for fire alarm use.
- vii. Cable shall be run parallel or perpendicular to the building trusses.
- viii. Cable shall be installed in conduit.
- ix. When cable is run outside a wall, rigid conduit shall protect it. This conduit shall have a bushing installed where the cable exits the conduit into the J-Box.
- x. Whenever a cable enters a conduit box, an approved connector shall secure it.
- xi. When cable is installed above a suspended ceiling, there shall be sufficient extra cable in flexible conduit coiled up near the termination point to enable

- the fire alarm device to be relocated to an adjacent ceiling tile if necessary.
- xii. All cables shall be marked with labels that can be referenced to location and use.
- xiii. All shields shall be continuous and insulated unless a designated terminal is provided.
- xiv. Shields shall be grounded at one end only; the other end shall be taped off.
- xv. All devices with ground bonding wires attached shall be bonded to their back box or mounting plate.
- xvi. All penetrations through firewalls shall be properly sleeved and sealed with an approved fire rated sealant.
- xvii. All conduit passing through a wall or floor shall be sleeved to prevent damage.
- xviii. Cable terminations shall be as follows:
- xix. All stranded wire ends terminated to a screw down terminal shall be equipped with a crimped spade connector.
- xx. Splices are not allowed in fire alarm circuits.

f. Other:

- i. Replace all Won Doors, motors, key switches and all other related items (compatible with new system).
- ii. Replace all door releases and related items (compatible with new system)
- iii. All fire dampers and related items shall be inspected for proper operation.

Unless otherwise stipulated, the Contractor shall furnish all of the Work in accordance with the Contract and all incidental work necessary to complete the Project in an acceptable manner, ready for use, occupancy, or operation by the County. The Contractor shall be responsible for the entire Work and every part thereof.

III. EXECUTION

A. Submittals

1. All Submittals are to be reviewed and approved by the County Representative and AHJ prior to installation.

2. Design Data and Calculations

- a. Complete calculations shall clearly indicate the quantity of devices, the device part numbers, the supervisory current draw, the alarm current draw, totals for all categories, and the calculated battery requirements. Battery calculations shall also reflect all control panel component, remote annunciator, and auxiliary relay current draws.
- b. System (Load & Battery) calculations shall be provided for each system power supply, each notification appliance circuit and each auxiliary control circuit that draws power from any system power supply.

c. The Contractor shall provide a Fire Alarm Matrix confirming the sequence of operation for each type of initiating device.

3. Product Data

a. Product Data shall be (resubmitted) as required for proposal documents, annotated for any and all deviations, substitutions, or modifications.

4. Design and Shop Drawings

- a. Three complete sets of full size drawings shall be furnished to the County Representative to include an electronic copy in PDF digital format.
- b. Drawings are to be provided as required by the AHJ for all approvals, reviews and permit submissions.
- c. Drawings shall include but not be limited to:
 - i. All drawings and diagrams shall include the contractor's title block, complete with drawing title, stamps and seals, contractor's name, address, date including revisions and both preparer's and reviewer's initials.
 - ii. Complete system bill of material with peripheral device back-box size information, part numbers, and device mounting height information.
 - Detailed system operational description noting any differences and deviations from original proposal or previous submittals shall be clearly noted and marked.
 - iv. A riser diagram that individually depicts all control panels, annunciators, addressable devices and notification appliances. Field addressable devices and notification appliances may be grouped together by specific type per loop or circuit if allowed by AHJ. All addressable devices, initiating and relays, must have the identifying addresses on all drawings. All annunciators and control panels, including booster power supply panels, must be clearly identified and accurately located in all drawings.
 - v. Complete 1/8" = 1'-0 scale floor plan drawing locating all system devices and elevation of all equipment at the Fire Command Station. Floor plans shall indicate accurate locations for all control and peripheral devices as well as cable, raceway size and routing, junction boxes, and conductor size, and quantity in each raceway. All notification appliances shall be provided with a candela rating and circuit address that corresponds to that depicted on the Riser Diagram. If individual floors need to be segmented to accommodate the 1/8" scale requirements, KEY PLANS and BREAK-LINES shall be provided on the plans in an orderly and professional manner. End-of-line resistors (and values) shall be depicted.
 - vi. All drawings shall be reviewed and signed off by an individual having a minimum of a NICET 3 certification in fire protection Engineering technology, subfield of fire alarm systems.
 - vii. Control panel wiring and interconnection schematics. The drawing(s) shall depict internal component placement and all internal and field termination points. Drawing shall provide a detail indicating where conduit penetrations

shall be made, so as, to avoid conflicts with internally mounted batteries. For each additional data-gathering panel, a separate control panel drawing shall be provided, which clearly indicated the designation, service and location of the control enclosure.

viii. Any additional requirements as may be required by AHJ for approval.

B. Installation

1. Install components in accordance with manufacturer's instructions and in accordance with all regulations, codes, standards and as required by this Section.

C. Related Work

- 1. The Fire Alarm Contractor shall coordinate the fire alarm system installation with all related trades. Work and/or equipment provided by others and related to the fire alarm system shall include, but not be limited to:
 - a. Sprinkler water-flow and supervisory switches shall be furnished and installed by the Sprinkler Contractor, but wired and connected by the Fire Alarm Contractor.
 - b. Air handling and smoke exhaust system fan control circuits and status contacts to be furnished by the HVAC Controls Equipment Contractor.
 - c. Duct detectors shall be furnished, installed and wired by the Fire Alarm Contractor. The HVAC Contractor shall provide necessary duct openings to install the duct detectors.
 - d. Empty conduits for the fire alarm system shall be furnished by the Electrical Contractor.
 - e. Dedicated 120V, 20A circuit for the fire alarm system shall be furnished by the Electrical Contractor.

D. Quality Control, Testing and Acceptance

- 1. The Fire Alarm Contractor shall notify the County Representative that the system is ready for acceptance tests at least ten (10) days before commencement of the acceptance tests.
- 2. A documented and certified 100% test of the complete fire alarm system shall be conducted in the presence of the County Representative before acceptance of the system. This test shall include activating every field device and confirming activation of all primary and secondary functions. All defective equipment shall be replaced or repaired before DeKalb County Jail accepts the system.
- 3. Provide trained and certified manufacturer's representatives to provide technical assistance during all testing.
- 4. The Contractor will maintain the cleanliness of the smoke and heat sensing fire detectors from the time that the devices are installed to the time that each building

system is tested and turned over to the County Representative.

- 5. The Contractor will replace the protective dust covers on the smoke and heat detectors after the building system has been tested and accepted by the County Representative and the State Fire Marshal.
- 6. Maintain the cleanliness of the smoke and heat sensing fire detectors until the time that the building system is accepted by the County Representative.
- 7. Remove the protective dust covers from the smoke and heat detectors at the building when instructed by the County Representative.

E. Warranty

1. Contractor shall provide a written warranty that covers all products, equipment, software and workmanship for a minimum period of five (5) years from the date of completion.

NOTE: Completion is defined as the point at which all test are completed, successful and all documents have been delivered to the County Representative.

F. Completion And Close-Out

1. As-Built Documents

- a. Three (3) copies of all required documentation per NFPA-72 shall be provided to the County Representative within 30 days of project completion. As-Built Documentation shall also be provided in electronic PDF format on CD or USB storage device. This documentation shall include, but not be limited to the following:
 - i. Fire alarm matrix
 - ii. Annotated design and shop drawings (per 3.1-.D)
 - iii. Certificate of Completion
 - iv. Annotated product data
 - v. Revised Project Calculations
 - vi. Fire Alarm panel program printed copy and electronic format.
 - vii. Detailed warranty information.
 - viii. Contact information for warranty issues.

2. Operating and System Manuals

- a. Three (3) copies of the Operating and System Manual shall be provided in ring binders clearly marked and titled and in digital format (CD or USB).
- b. The manual shall contain a detailed narrative description of the system architecture, inputs, notification signaling, auxiliary functions, annunciation, sequence of operations, expansion capability, application considerations and

- limitations.
- c. The manual shall include all As-Built Documents with tabbed sections for each part as noted above.
- d. Manual should include the name, address and telephone of the authorized factory representative(s).

IV. PROPOSAL FORMAT

Responders are required to submit their proposals in the following format:

A. Cost Proposal

- 1. The cost proposal must be submitted in a separate, sealed envelope with the responder's name and "Cost Proposal for Request for Proposals No. 18-500478 for Jail Fire Alarm System Replacement" on the outside of the envelope.
- 2. The sealed envelope containing the cost proposal is requested to be included in the sealed package containing the technical proposal.
- 3. **DO NOT INCLUDE FEES OR COSTS IN ANY AREA OUTSIDE OF THIS COST PROPOSAL.** Including fees in any area outside of the Cost Proposal in its separate, sealed envelope shall result in Responder's proposal being deemed non-responsive.
- 4. Responders are required to submit their costs on Attachment A, Cost Proposal Form. Responder shall not alter the cost proposal form.

B. Technical Proposal

DO NOT INCLUDE ANY COSTS OF ANY KIND IN THE TECHNICAL PROPOSAL OR ON THE DISCS CONTAINING THE TECHNICAL PROPOSAL.

- 1. Technical Proposals must be submitted in a sealed envelope(s) or box(es) with the responder's name and "Request for Proposals No. 18-500478 for Jail Fire Alarm System Replacement" on the outside of each envelope or box.
- 2. Responder shall complete Attachment C, *Proposal Cover Sheet*, and include this as the first page of the technical proposal.
- 3. Technical Approach:
 - a. Responders are required to describe the procedures and methods that will achieve the required outcome of the project as specified herein;
 - b. Include a listing of the County's responsibilities and the Responder's responsibilities required to complete the project; and
 - c. Provide a project schedule at the task level starting with the receipt of the Notice to

Proceed and ending with project completion.

4. Project Management:

- a. Describe how the project will be organized and managed;
- b. Describe progress reporting procedures for the project;
- c. Include the anticipated use of subcontractors or vendors; and
- d. Describe the resources necessary to accomplish the purpose of the project.

5. Personnel:

- a. Identify the individuals who will be part of the project team;
- b. Include any outside personnel, such as subcontractors; and
- c. Provide detailed resumes of team members and subcontractors who will be directly working on the project.

6. Organizational Qualifications:

- a. Describe Responder's experience, capabilities and other qualifications for this project;
- b. How many years has Responder operated under current company name?
- c. Has Responder ever been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency from doing business with the Federal Government?
- d. Contractor's License: A copy of the Contractor's valid State of Georgia License. The contractor must be licensed in the state of project location and have been incorporated in the business in that state for a minimum of five (5) years.
- e. Proof of Experience: Proof that Contractor has successfully installed similar systems for fire detection, evacuation voice, and visual signaling control components on previous projects of comparable size and complexity.
- f. Service Capability: The fire alarm contractor shall have in-house Engineering, installation and service personnel with a maintenance office within 50 miles of the project location
- g. Equipment Manufacturer Authorization Letters: Letters from the (all) equipment manufacturer(s) stating that the Contractor is a Factory Authorized Distributor and Installer, and is trained and certified for the equipment proposed on this project and is licensed to purchase and install the software required to provide the specified functions.

h. Certifications:

- Provide a copy of the National Institute for Certification in Technologies (NICET) Technician Level 3 Certificate for the project Engineer actively proposed for the project.
- ii. Documentation that the Contractor has on staff personnel factory-trained and certified for the equipment proposed for this project.
- i. The majority of work must be performed between the hours of 7:30 AM EST and 5:30 PM EST.
- j. The awardee's personnel must pass a DeKalb County background and security check prior to beginning work.

7. Responder must provide financial statements for the last three (3) years that evidences the responder's financial capabilities to perform the statement of work. (Audited statements are preferable but a minimum of balance sheet, income statement and cash flow statement may be accepted.) Provide year of incorporation (if applicable).

8. References:

- a. Responder shall provide three (3) references for projects similar in size and scope to the project specified herein using the *Contractor Reference and Release Form* attached hereto as Attachment D.
- b. Provide three (3) references for each subcontractor proposed as a part of the project team. The references shall be for the same or similar types of services to be performed by the subcontractor (including LSBE-DeKalb and LSBE-MSA firms) on projects similar in size and scope to the project outlined in this RFP. Use Attachment E, Subcontractor Reference and Release Form. Make additional copies as needed.
- 9. Provide the following information: Are you a DeKalb County Firm? Yes/No.

C. DeKalb First Ordinance

- 1. It is the objective of the Chief Executive Officer and Board of Commissioners of DeKalb County to provide maximum practicable opportunity for all businesses to participate in the performance of government contracts. The current DeKalb County List of Certified Vendors may be found on the County website at http://www.dekalbcountyga.gov/purchasing/pdf/supplierList.pdf.
- 2. It is required that all responding Responders attend the mandatory LSBE meeting within two-weeks of the solicitation's advertisement, and comply, complete and submit all LSBE forms with the Responder's response to remain responsive. Attendance can be in person, via video conference and teleconference. Video conferencing is available through Skype/Lync. Instructions for attendance via video conference can be found on the County's website at https://www.dekalbcountyga.gov/purchasing-contracting/dekalb-first-lsbe-program.
- 3. For further details regarding the DeKalb First Local Small Business Enterprise Ordinance, contact the LSBE Program representative, Felton Williams at fbwilliams@dekalbcountyga.gov or (404) 371-6312.

D. Federal Work Authorization Program Contractor and Subcontractor Evidence of Compliance

All qualifying contractors and subcontractors performing work with DeKalb County, Georgia must register and participate in the federal work authorization program to verify the work eligibility information of new employees. Successful responder(s) shall be required to register and participate in the federal work authorization program which is a part of

Appendix 2, *Sample County Contract for Construction*. In order for a Proposal to be considered, it is **mandatory** that the *Responder Affidavit*, Attachment G, be completed and submitted with responder's proposal.

V. CRITERIA FOR EVALUATION

The following evaluation criteria and the maximum points stated below will be used as the basis for the evaluation of proposals.

- **A.** Proposed Technical Approach to the Project (45 Points)
- **B.** Qualifications (15 Points)
- C. References (15 Points)
- **D.** Cost (10 Points)
- E. LSBE (10 Points)
- **F.** Financial Responsibility (5 Points)
- **G.** Interviews (10 Points) bonus

VI. CONTRACT ADMINISTRATION

A. Standard County Contract

The attached sample contract is the County's standard contract document (see Appendix 2), which specifically outlines the contractual responsibilities. All responders should thoroughly review the document prior to submitting a proposal. Any proposed revisions to the terms or language of this document must be submitted in writing with the responder's response to the request for proposals. Since proposed revisions may result in a proposal being rejected if the revisions are unacceptable to the County, responders should review any proposed revisions with an officer of the firm having authority to execute the contract. No alterations can be made in the contract after award by the Board of Commissioners.

B. Submittal Instructions

One (1) original Technical Proposal stamped "Original" and eight (8) compact discs with each disc containing an identical copy of the Technical Proposal (do not include the Cost Proposal on the discs), and eight (8) hard copies with each being an identical copy of the Technical Proposal; and one (1) original Cost Proposal (see Section IV.A. for additional instructions regarding submittal of Cost Proposal) must be submitted to the following address no later than 3:00 p.m. on May 15, 2018.

DeKalb County Department of Purchasing and Contracting The Maloof Center, 2nd Floor 1300 Commerce Drive Decatur, Georgia 30030

Proposals must be clearly identified on the outside of the packaging with the responder's name and "Request for Proposals No. 18-500478 for Jail Fire Alarm System Replacement"

on the outside of the envelope(s) or box(es).

It is the responsibility of each Responder to ensure that its submission is received by 3:00 p.m. on the bid due date. The time/date stamp clock located in the Department of Purchasing & Contracting shall serve as the official authority to determine lateness of any response. The RFP opening time shall be strictly observed. Be aware that visitors to our offices will go through a security screening process upon entering the building. Responders should plan enough time to ensure that they will be able to deliver their submission prior to our deadline. Late submissions, for whatever reason, will not be evaluated. Responders should plan their deliveries accordingly. Telephone or fax bids will not be accepted.

C. Mandatory Pre-Proposal Conference and Site Visit

A mandatory pre-proposal conference and site visit will be held at 10:00 AM EST on the 30th day of April, 2018 at DeKalb County Headquarters and Jail, 4415 Memorial Dr., Decatur, GA 30032. Interested responders are <u>required</u> to attend and participate in the mandatory pre-proposal conference and site visit. For information regarding the mandatory pre-proposal conference and site visit, please contact Randy Webb at 404-371-2019 or rwebb@dekalbcountyga.gov.

D. Questions

All questions concerning the Project and requests for interpretation of the Contract may be asked and answered at the mandatory pre-proposal conference and site visit; however, oral answers are not authoritative. Questions must be submitted to Randy Webb, via email to rwebb@dekalbcountyga.gov, no later than 5:00 PM EST on May 2, 2018. Questions and requests for interpretation received by the Department of Purchasing and Contracting after this date will not receive a response or be the subject of addenda.

E. Acknowledgment of Addenda

Addenda may be issued in response to changes in the RFP. It is the responsibility of the responder to ensure awareness of all addenda issued for this solicitation. Please acknowledge the addenda and submit to the Department of Purchasing and Contracting as requested. Responder may call Randy Webb at 404-371-2019 or send an email rwebb@dekalbcountyga.gov to verify the number of addenda prior to submission. Addenda issued for this project found DeKalb County's website. may be https://www.dekalbcountyga.gov/purchasing-contracting/bids-itb-rfps.

F. Proposal Duration

Proposals submitted in response to this RFP must be valid for a period of One Hundred Twenty (120) days from proposal submission deadline and must be so marked.

G. Project Director/Contract Manager

The County will designate a Project Director/Contract Manager to coordinate this project for the County. The successful responder will perform all work required pursuant to the contract under the direction of and subject to the approval of the designated Project Director/Contract Manager. All issues including, payment issues, shall be submitted to the Project Director/Contract Manager for resolution.

H. Expenses of Preparing Responses to this RFP

The County accepts no responsibility for any expenses incurred by the responders to this RFP. Such expenses are to be borne exclusively by the responders.

I. Georgia Open Records Act

Without regard to any designation made by the person or entity making a submission, DeKalb County considers all information submitted in response to this invitation or request to be a public record that will be disclosed upon request pursuant to the Georgia Open Records Act, O.C.G.A. §50-18-70 et seq., without consulting or contacting the person or entity making the submission, unless a court order is presented with the submission. You may wish to consult an attorney or obtain legal advice prior to making a submission.

J. First Source Jobs Ordinance

The DeKalb County First Source Jobs Ordinance requires contractors or beneficiaries entering into any type of agreement with the County, including purchase orders, regardless of what they may be called, for the procurement or disposal of supplies, services, construction projects, professional or consultant services, which is funded in whole or part with County funds or County administered funds in which the contractor is to receive \$50,000 or more in County expenditures or committed expenditures and recipient of urban redevelopment action grants or community development block funds administered in the amount of \$50,000 or more make a good faith effort to hire DeKalb County residents for at least 50% of jobs using the First Source Registry (candidate database). The work to be performed under this contract is subject to the provisions of the DeKalb County First Source Jobs Ordinance. Please complete the First Source Jobs Ordinance Acknowledgement and New Employee Tracking Form included in Attachment H, First Source Jobs Ordinance (with Exhibits 1-4) and submit with the responder's proposal.

For more information on the First Source Jobs Ordinance requirement, please contact WorkSource DeKalb at www.worksourcedekalb.org or 404-687-3400.

K. Business License

Responder shall submit a copy of its current, valid business license with its proposal. If the responder is a Georgia corporation, responder shall submit a valid county or city business license. If the responder is not a Georgia corporation, responder shall submit a certificate of authority to transact business in the state of Georgia and a copy of its valid business license issued by its home jurisdiction. If responder holds a professional certification which is

licensed by the state of Georgia, then responder shall submit a copy of its valid professional license. Any license submitted in response to this requirement shall be maintained by the responder for the duration of the contract.

L. Ethics Rules

Bidders are subject to the Ethics provision within the DeKalb County Purchasing Policy; the Organizational Act, Section 22A, the Code of DeKalb County; and the rules of Executive Order 2014-4. Any violations will be addressed, pursuant to these policies and rules.

To the extent that the Organizational Act, Section 22A, the Code of DeKalb County, and the rules of Executive Order 2014-4 allow a gift, meal, travel expense, ticket, or anything else of value to be purchased for a CEO employee by a contractor doing business with the County, the contractor must provide written disclosure, quarterly, of the exact nature and value of the purchase to the Chief Integrity Officer, if created, or the Finance Director or his/her designee. Every contractor conducting business with the County will receive a copy of these ethical rules at the time of execution of the contract.

M. Right to Audit

The County shall have the right to audit all books and records, including electronic records, relating or pertaining to this contract or agreement, including but not limited to all financial and performance related records, property, and equipment purchased in whole or in part with County funds and any documents or materials which support those records, kept under the control of the Contractor, including but not limited to those kept by the Contractor's employees, agents, assigns, successors and subcontractors. The County also has the right to communicate with Contractor's employees related to the audited records.

The Contractor shall maintain such books and records, together with such supporting or underlying documents and materials, for the duration of this contract and for seven (7) years after termination or expiration, including any and all renewals thereof. The books and records, together with supporting documents and materials shall be made available, upon request to the County or its designee, during normal business hours at the Contractor's office or place of business. In the event that no such location is available, then the books, records, and supporting documents shall be made available for audit at a time and location which is convenient for the County.

N. Cooperative Procurement

The County through the Department of Purchasing and Contracting may permit piggybacks to this contract from other city, county, local authority, agency, or board of education if the vendor will extend the same prices, terms, and conditions to the city. Piggybacking shall only be available where competition was used to secure the contract and only for a period of 12-months following entry, renewal or extension of the contract. This provision shall not apply to any contract where otherwise prohibited or mandated by state law.

VII. AWARD OF CONTRACT

An evaluation committee will review and rate all proposals and shall determine if interviews are necessary.

If interviews are conducted, firms will be scheduled for an oral presentation to the evaluation committee, not to exceed one hour's duration, to respond to questions from the evaluation committee relevant to the firm's proposal.

The evaluation committee will make its recommendation for award to the DeKalb County Board of Commissioners, who will make the final decision as to award of contract.

THE COUNTY RESERVES THE RIGHT TO REJECT ANY AND ALL PROPOSALS, TO WAIVE INFORMALITIES, AND TO RE-ADVERTISE.

Sincerely,

Randy Webb Senior Procurement Agent Department of Purchasing and Contracting

VIII. LIST OF ATTACHMENTS

Attachment A: Cost Proposal Form
Attachment B: Bid Bond Form

Attachment C: Proposal Cover Sheet

Attachment D: Contractor Reference and Release Form
Attachment E: Subcontractor Reference and Release Form

Attachment F: LSBE Opportunity Tracking Form

Attachment G: Responder Affidavit

Attachment H: First Source Jobs Ordinance Acknowledgement

Attachment I: Preferred Employee Tracking Form

ATTACHMENT A

COST PROPOSAL FORM

(consisting of 3 pages)

RFP NO. 18-500478 FOR JAIL FIRE ALARM SYSTEM REPLACEMENT

Responder: Please complete the attached pages of the Cost Proposal Form, and return them with this cover page. The cost proposal must be submitted in a separate, sealed envelope with the Responder's name and "Request for Proposals No. 18-500478 for Jail Fire Alarm System Replacement" clearly identified on the outside of the envelope.

By signing this page, Responder acknowledges that he has carefully examined and fully understands the Contract, Scope of Work, and other attached documents, and hereby agrees that if his proposal is accepted, he will contract with DeKalb County according to the Request for Proposal documents.

Please provide the following information:	
Name of Firm:	
Address:	
Contact Person Submitting Proposal:	
Title of Contact Person:	
Telephone Number:	
Fax Number:	
E-mail Address:	
	Signature of Contact Person
	Title of Contact Person

ATTACHMENT A (Continued)

COST PROPOSAL FORM

Responder: State all costs (direct and indirect), administrative costs, and all things necessary for RFP No. 18-500478 for Jail Fire Alarm System Replacement. Make additional copies and renumber Line Items as needed.

Line Item	Quantity	Description	Manufacturer	Manufacturer Part number	Cost Each	Total line item cost
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
					Grand Total	

|
 |
|------|------|------|------|------|------|------|
| | | | | | | |

(State the Grand Total in writing on this line.)

ATTACHMENT A (Continued)

COST PROPOSAL FORM

Attached hereto is Bid Bond made by
, a surety company listed in the most
recent US Treasury Circular No. 570 and licensed to write surety bonds in the State of Georgia,
payable to DeKalb County, Georgia (or an official bank check), in the amount of ten percent (10%)
of the above Proposal, to-wit: \$
If this Proposal shall be accepted by DeKalb County and the undersigned shall fail to execute a
satisfactory contract in the form of said proposed Contract, give satisfactory Performance and
Payment Bonds, or furnish satisfactory proof of the insurance required, as stated in the Instructions
to Proposers within ten (10) days from the Notice of Award of the Contract, then the County may
at its option, determine that the undersigned abandoned the Contract and thereupon this Proposal

shall be null and void, and the sum stipulated in the attached Bid Bond (or an official bank check)

shall be forfeited to the County as liquidated damages.

ATTACHMENT B

BID BOND FORM

KNOW ALL MEN BY THESE PRESENTS, that we,	
(hereinafter called the Principal) and	_
	_ (hereinafter
called the Surety), a corporation chartered and existing under the laws	of the State of
with its principal offices in the City of	and listed in the
Federal Register and licensed to write surety bonds in the State of Georgia, ar	e held and firmly
bound unto DeKalb County, Georgia, in the full and just sum of	
Dollars (\$) good and
lawful money of the United States of America, to be paid upon demand of	DeKalb County,
Georgia, to which payment well and truly to be made we bind ourselves, our	r heirs, executors,
administrators, and assigns, jointly and severally and firmly by these presents.	
WHEREAS, the Principal is about to submit, or has submitted to DeKalb Co	ounty, Georgia, a
Proposal for	
RFP No. 18-500478, Jail Fire Alarm System Replacement.	

WHEREAS, the Principal desires to file this Bond in accordance with law to accompany this Proposal.

NOW, THEREFORE, the conditions of this obligation are such that if the Proposal be accepted within one hundred twenty (120) of the Proposal opening, the Principal shall execute a Contract in accordance with the Proposal and upon the terms, conditions, and prices set forth therein, and in the form and manner required by DeKalb County, Georgia, and within ten (10) days from the date of Notice of Award of the Contract, execute a sufficient and satisfactory Performance Bond equals to 100% of the Contract Price and Payment Bond equals to 100% of the Contract Price, payable to DeKalb County, Georgia, in form and with security satisfactory to DeKalb County and furnish satisfactory proof of the insurance required, then this obligation to be void; otherwise, to be and

remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid DeKalb County, Georgia, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TECTIMONIA THEREOF (L. D L. L.C.)	1 1	.1	,	. 1	1 1
IN TESTIMONY THEREOF, the Principal and Surety		these	presents	to be	duly
signed and sealed this day of	, 20				
PRINCIPAL					
By:(SEAL)					
By:(SEAL) Signature of Principal					
Print Name and Title of Authorized Signer					
Print Name of Principal Business					
ATTEST:					
Corporate Secretary					
SURETY					
By:(SEAL)					
Signature of Surety (by Power of Attorney)					
Print Name and Title of Authorized Signer					
Print Name of Surety Business					
WITNESS:					

ATTACHMENT C

PROPOSAL COVER SHEET

NOTE: Read all instructions, conditions and specifications in detail before completing this Request for Proposal.

Please complete and include this cover sheet with your technical proposal.					
Company Name			Federal Tax ID#		
Complete Primary Address	County		City	Zip Code	
Mailing Address (if different)	City		State	Zip Code	
Contact Person Name and Title	Telephor code)	ne Nu	mber (in	clude area	
Email Address	Fax Num	nber (include ar	rea code)	
Company Website Address	Type of Organization (check one)				
	☐ Corporation ☐ Joint Venture ☐ Proprietorship ☐ Government				
Proposals for RFP No. 18-500478 for Jail Fire Alarm System Replacement described herein will be received in the Purchasing & Contracting Department, Room 2 nd Floor, The Maloof Center, 1300 Commerce Drive, Decatur, Georgia 30030 on May 15, 2018 until 3:00 p.m. (EST). Proposals shall be marked in accordance with the RFP, Section IV.B.					
CAUTION: The Decatur Postmaster will not deliver certified or Special Delivery Mail to specific addresses within DeKalb County Government. When sending bids or time sensitive documents, you may want to consider a courier that will deliver to specific addresses.					
Proposal Cover Sheet should be signed by a representative of Proposer with the authority to bind Proposer to all terms, conditions, services, and financial responsibilities in the submitted Proposal.					
Authorized Representative Signature(s) Title					
Type or Print Name(s)		Date)		

ATTACHMENT D

CONTRACTOR REFERENCE AND RELEASE FORM

List below at least three (3) references, including company name, contact name, address, email address, telephone numbers and contract period who can verify your experience and ability to perform the type of service listed in the solicitation.

Company Name	Contract I	Contract Period				
Contact Person Name and Title	Telephone	Telephone Number (include area code)				
Complete Primary Address	City	State	Zip Code			
Email Address	Fax Numb	per (include a	rea code)			
Project Name						
Company Name	Contract I	Period				
Contact Person Name and Title	Telephone	Telephone Number (include area code)				
Complete Primary Address	City	State	Zip Code			
Email Address	Fax Numb	per (include a	rea code)			
Project Name						
Company Name	Contract I	Period				
Contact Person Name and Title	Telephone	Number (in	clude area code)			
Complete Primary Address	City	State	Zip Code			
Email Address	Fax Numb	Fax Number (include area code)				
Project Name						
REFERENCE CHEC You are authorized to contact the references prov			Р.			
Signed	Title					
(Authorized Signature of Proposer)						
Company Name	Date					

ATTACHMENT E

SUBCONTRACTOR REFERENCE AND RELEASE FORM

List below at least three (3) references, including company name, contact name, address, email address, telephone numbers and contract period who can verify your experience and ability to perform the type of service listed in the solicitation.

Company Name	Contract Period						
Contact Person Name and Title	Telephone N	Telephone Number (include area code)					
Complete Primary Address	City	State	Zip Code				
Email Address Fax Number (include area code)							
Project Name							
Company Name	Contract Peri	od					
Contact Person Name and Title	Telephone Number (include area code)						
Complete Primary Address	City	State	Zip Code				
Email Address	Fax Number	(include a	rea code)				
Project Name							
Company Name	Contract Peri	od					
Contact Person Name and Title	Telephone N	umber (in	clude area code)				
Complete Primary Address	City	State	Zip Code				
Email Address	Fax Number (include area code)						
Project Name							
REFERENCE CHECK RELEASE STATEMENT You are authorized to contact the references provided above for purposes of this RFP.							
Signed	Title						
Signed(Authorized Signature of Proposer)							
Company Name							

ATTACHMENT F

DEKALB FIRST LSBE INFORMATION WITH EXHIBITS A – B

SCHEDULE OF LOCAL SMALL BUSINESS ENTERPRISE PARTICIPATION OPPORTUNITY TRACKING FORM

The Chief Executive Officer and the Board of Commissioners of DeKalb County believe that it is important to encourage the participation of small and local businesses in the continuing business of County government; and that the participation of these types of businesses in procurement will strengthen the overall economic fabric of DeKalb County, contribute to the County's economy and tax base, and provide employment to local residents. Therefore, the Chief Executive Officer and the Board of Commissioners have made the success of local small businesses a permanent goal of DeKalb County by implementing the DeKalb First Local Small Business Enterprise Ordinance.

PROVISIONS OF DEKALB FIRST LOCAL SMALL BUSINESS ENTERPRISE (LSBE) ORDINANCE

Percentage of LSBE Participation Required	
20% of Total Award	

Certification Designation	Request For Proposals
	(RFP)
LSBE Within DeKalb (LSBE-	Ten (10) Preference
DeKalb)	Points
LSBE Outside DeKalb (LSBE-	Five (5) Preference Points
MSA)	
Demonstrated GFE	Two (2) Preference Points

Certified Local Small Business Enterprises (LSBEs) located within DeKalb County and prime contractors utilizing LSBEs that are locally-based inside DeKalb County shall receive ten (10) points in the initial evaluation of their response to any Request for Proposal. Certified LSBEs located outside of DeKalb County but within the nine (9) County Metropolitan Statistical Area (MSA) consisting of Cherokee, Clayton, Cobb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale Counties shall receive five (5) points in the initial evaluation of their response to any Request for Proposal. Prime Contractors who demonstrate sufficient good faith efforts in accordance with the requirements of the ordinance shall be granted two (2) points in their initial evaluation of responses to any Request for Proposal. Pro-rated points shall be granted where a mixture of LSBE-DeKalb and LSBE MSA firms are utilized. Utilization of each firm shall be based upon the terms of the qualified sealed solicitation.

Prime Contractor(s) deemed responsible and remains responsive to an Invitation to Bid (ITB) because they are either a certified LSBE-DeKalb or LSBE-MSA firm or has obtained **20% participation of an LSBE-DeKalb or LSBE-MSA firm**, submits the lowest bid price shall be deemed the lowest, responsive and responsible bidder.

Prime Contractor(s) deemed responsible and remains responsive to an Invitation to Bid (ITB) and

documented good faith efforts, submits a lower bid price than a Prime Contractor that achieved 20% LSBE participation, or otherwise required benchmark, then the Prime Contractor who actually met the benchmark will be given the opportunity to match the lowest bid price of the Prime Contractor who only made good faith efforts. Prime Contractor(s) who choose **not** to match the lowest bid price, then the Prime Contractor who made the good faith efforts will be deemed the lowest, responsive and responsible bidder.

For all qualified sealed solicitations, the Director of Purchasing and Contracting, DeKalb County Government, shall determine if the bidder/proposer has included written documentation showing that at least twenty percent (20%) of the total contract award will be performed by a certified LSBE. This written documentation shall be in the form of a notarized Schedule of LSBE Participation (Attached hereto as "Exhibit A".) For all contracts, a signed letter of intent from all certified LSBEs describing the work, material, equipment and/or services to be performed or provided by the LSBE(s) and the agreed upon percentage shall be due with the bid or proposal documents and included with "Exhibit A". The certified vendor list establishes the group of Certified LSBE's from which the bidder/proposer must solicit subcontractors for LSBE participation. This list can be found on our website http://www.dekalbcountyga.gov/purchasing-contracting/about-purchasing-and-contracting or obtained from the Special Projects LSBE Program team.

Prime Contractors failing to meet the LSBE benchmark must document and demonstrate Good Faith Efforts in accordance with the attached "Checklist for Good Faith Efforts" portion of "Exhibit A." The notarized Schedule of LSBE Participation shall be due and submitted with each bid or proposal. Failure to achieve the LSBE benchmark or demonstrate good faith efforts shall result in a bid or proposal being rejected. Prime Contractors that fail to attend the mandatory LSBE meeting in person or via video conference shall mean that the Prime Contractor has not demonstrated sufficient good faith efforts and its bid or proposal if submitted, shall be deemed non-responsive without any further review.

Upon award, Prime Contractors are required to submit a report detailing LSBE Sub-Contractor usage with each request for payment and not less than on a monthly basis. Prime Contractors shall ensure that all LSBE sub-contractors have been paid within seven (7) days of the Prime's receipt of payment from the County. Failure to provide requested reports/documentation shall constitute a material breach of contract, entitling the County to terminate the Contract for default or pursue other remedies. LSBE sub-contractors must confirm payments received from the Prime(s) for each County contract they participate in.

For eligible bids/proposals valued over \$5,000,000.00, the Mentor-Protégé provision of the Ordinance shall apply. Prime Contractors must agree to become mentors and take on an LSBE protégé in an effort to enhance the potential of future LSBEs. Qualifying projects shall be performed by both Mentor and Protégé through a subcontract between both parties. This requirement is in addition to all other applicable sections of the DeKalb First Ordinance. Please review the ordinance, section 2-214 or contact the LSBE Program Representative for detailed information regarding this initiative.

EXHIBIT A

SCHEDULE OF DEKALB FIRST LOCAL SMALL BUSINESS ENTERPRISE PARTICIPATION OPPORTUNITY TRACKING FORM

As specified, Bidders and Proposers are to present the details of LSBE participation below:

•		• •				
PRIM BIDD	E ER/PROPOSER					
SOLIC	CITATION NUMBER: Insert solicitation numb	er				
TITLE	E OF UNIT OF WORK – Insert solicitation nam	e				
1.	My firm, as the prime bidder/proposer on this unit of work, is a certified (check all that apply):LSBE-DeKalbLSBE-MSA					
2.	If you are a Certified LSBE-DeKalb or MSA, please indicate below the percentage of that your firm will carry out directly:					
3.	If the prime bidder/proposer is a joint venture, please describe below the nature of the joint venture and level of work and percentage of participation to be provided by the LSBE-DeKalb or MSA joint venture firm.					
4	List the LODE DeVelle on MCA and contractions					
4.	List the LSBE-DeKalb or MSA subcontractors and/or firms (including suppliers) to be utili in of this contract, if awarded. No changes can be made in the subcontractors listed bel without the prior written approval of the County. Please attach a signed letter of intent fr all certified LSBEs describing the work, materials, equipment or services to be perform and/or provided and the agreed upon percentage of work to be performed. A Letter of Int form is attached hereto as "Exhibit B".					
	Name of Company					
	Address					
	Telephone					
	Fax					
	Contact Person					
	Indicate certification status and attach proof of certification: LSBE-DeKalb/LSBE-MSA					
	Description of services to be performed					
	Percentage of work to be performed					

Name of Company	
Address	
Telephone	
Fax	
Contact Person	
Indicate certification status and attach proof	
of certification:	
LSBE-DeKalb/LSBE-MSA	
Description of services to be performed	
Percentage of work to be performed	
Name of Company	
Address	
Telephone	
Fax	
Contact Person	
Indicate certification status and attach proof	
of certification:	
LSBE-DeKalb/LSBE-MSA	
Description of services to be performed	
Percentage of work to be performed	
Name of Company	
Address	
Telephone	
Fax	
Contact Person	
Indicate certification status and attach proof	
of certification:	
LSBE-DeKalb/LSBE-MSA	
Description of services to be performed	
Percentage of work to be performed	

Please attach additional pages, if necessary.

EXHIBIT A, CONT'D

<u>DEKALB COUNTY</u> CHECKLIST FOR GOOD FAITH EFFORTS

A bidder/proposer that does not meet the County's LSBE participation benchmark is required to submit documentation to support all "Yes" responses as proof of "good faith efforts." Please indicate whether or not any of these actions were taken:

	Yes	No	Description of Actions
1.			Prime Contractors shall attend a MANDATORY LSBE Meeting in person or via video conference within two-weeks of advertisement of the solicitation.
2.			Provide a contact log showing the company's name, contact person, address, email and contact number (phone or fax) used to contact the proposed certified subcontractors, nature of work requested for quote, date of contact, the name and title of the person making the effort, response date and the percentage of work.
3.			Provide interested LSBEs via email, of any new relevant information, if any, at least 5 business days prior to submission of the bid or proposal.
4.			Efforts made to divide the work for LSBE subcontracting areas likely to be successful and to identify portions of work available to LSBEs consistent with their availability. Include a list of divisions of work not subcontracted and the corresponding reasons for not including them. The ability or desire of a bidder/proposer to perform the contract work with its own organization does not relieve it of the responsibility to make good faith efforts on all scopes of work subject to subcontracting.
5.			Efforts were made to assist potential LSBE subcontractors meet bonding, insurance, or other governmental contracting requirements. Where feasible, facilitating the leasing of supplies or equipment when they are of such a specialized nature that the LSBE could not readily and economically obtain them in the marketplace.
6.			Communication via email or phone with DeKalb First Program Staff seeking assistance in identifying available LSBEs. Provide DeKalb First Program Staff representative name and title, and date of contact.
7.			For all contracts, a signed letter of intent from all certified LSBEs describing the work, materials, equipment or services to be performed or provided by the LSBE(s) and the agreed upon LSBE participation percentage shall be due with the bid or proposal documents.
8.			Other Actions, to include Mentor/Protégé commitment for solicitations \$5M and above (specify):

Please explain all "no" answers above (by number):

This list is a guideline and by no means exhaustive. The County will review these efforts, along with attached supporting documents, to assess the bidder/proposer's efforts to meet the County's LSBE Participation benchmark. If you require assistance in identifying certified, bona fide LSBEs, please contact the Purchasing and Contracting Department - DeKalb First Program, Felton Williams, Procurement Projects Manager at 404-371-6312.

EXHIBIT A, CONT'D

DEKALB FIRST LOCAL SMALL BUSINESS ENTERPRISE SCHEDULE OF PARTICIPATION OPPORTUNITY TRACKING FORM

Bidder/Proposer Statement of Compliance

Bidder(s)/Proposer(s) hereby state that they have read and understand the requirements and conditions as set forth in the objectives and that reasonable effort were made to support the County in providing the maximum practicable opportunity for the utilization of LSBEs consistent with the efficient and economical performance of this contract. The Bidder and any subcontractors shall file compliance reports at reasonable times and intervals with the County in the form and to the extent prescribed by the Director of DeKalb County Purchasing and Purchasing and Contracting Department. Compliance reports filed at such times as directed shall contain information as to the employment practices, policies, programs and statistics of Contractors and their subcontractors.

1. **Non-Discrimination Policy**

- a. During the performance of this agreement, Contractor agrees to conform to the following Non-Discrimination Policy adopted by the County.
- b. Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or disability. The Contractor will take action to ensure that applicants are employed, and the employees are treated during employment without regard to their race, color, religion, sex, national origin, or disability. Such action shall include, but not be limited to, the following:
 - (1) Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places available to employees and applicants for employment, notices to be provided setting forth provisions of this non-discrimination clause.
 - (2) Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or disability.
- c. Without limiting the foregoing, Contractor shall not discriminate on the basis of disability in the admission or access to, or treatment or employment in, the programs and activities, which form the subject of the contract. The Contractor will take action to ensure that applicants for participation in such programs and activities are considered without regard to disability. Such action shall include, but not be limited to, the following:

- (1) Contractor agrees to post in conspicuous places available to participants in its programs and activities notices to be provided setting forth the provisions of this non-discrimination clause.
- (2) Contractor shall, in all solicitations or advertisements for programs or activities, which are the subject of the contract, state that all qualified applicants will receive consideration for participation without regard to disability.

2. **Commitment**

The undersigned certifies that he/she has read, understands, and agrees to be bound by the bid specifications, including the accompanying Exhibits and other terms and conditions of the Invitation to Bid and/or Request for Proposal regarding LSBE utilization. The undersigned further certifies that he/she is legally authorized by the bidder or responder to make the statements and representations in Exhibit A and that said statements and representations are true and correct to the best of his/her knowledge and belief. The undersigned will enter into formal agreement(s) with the LSBE(s) listed in this Exhibit A, which are deemed by the owner to be legitimate and responsible LSBEs. agreement(s) shall be for the work and contract with the Prime Contractor. The undersigned understands and agrees that if any of the statements and representations are made by the Bidder knowing them to be false, or if there is a failure of the successful Bidder (i.e., Contractor) to implement any of the stated agreements, intentions, objectives, goals and commitments set forth herein without prior approval of the County, then in any such events the contractor's act or failure to act, as the case may be, shall constitute a material breach of contract, entitling the County to terminate the Contract for default. The right to so terminate shall be in addition to, and not in lieu of, any other rights and remedies the County may have for other defaults under the Contract. Additionally, the Contractor will be subject to the loss of any future contract awards by the County for a period of one year.

Firm Name (Please Print):	
Firm's Officer:	
(Authorized Signature and Title Required)	Date
Sworn to and Subscribed to before me this day of	, 201
Notary Public My Commission Expires:	

EXHIBIT B

LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR PROVIDING MATERIALS OR SERVICES

Instructions:

 Complete the form in its entirety and s Attach a copy of the LSBE's current v 		
To:		
(Name of Prime Contractor Firm)		
From:(Name of Subcontractor Firm)	□ LSBE –DeKal	b □ LSBE –MSA
(Name of Subcontractor Firm)	(Check a	all that apply)
RFP Number: <u>18-500478</u>		
Project Name: Jail Fire Alarm System R	eplacement	
The undersigned subcontractor is prepared materials or services in connection with the materials, or services to be performed or p	ne above project (specify in detail par	
Description of Materials or Services	Project/Task Assignment	Contract Award
Prime Contractor	Sub-contractor	
Signature:	Signature:	
Title:	Title:	
Data	Data	

ATTACHMENT G

RESPONDER AFFIDAVIT

By executing this affidavit, the undersigned verifies its compliance with O.C.G.A. § 13-10-91, as amended, stating affirmatively that the responder submitting a bid to DEKALB COUNTY, GA, a political subdivision of the State of 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 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, as amended].

Responder's Name	Federal Work Authorization Enrollment Date
BY: Authorized Officer or Agent	
Title of Authorized Officer or Agent of Bidder	Identification Number
Printed Name of Authorized Officer or Agent	
Address (*do not include a post office box)	
SUBSCRIBED AND SWORN BEFORE ME ON THIS THE DAY OF, 20	
Notary Public My Commission Expires:	

ATTACHMENT H

FIRST SOURCE JOBS ORDINANCE INFORMATION (WITH EXHIBITS 1 – 4)

EXHIBIT 1

FIRST SOURCE JOBS ORDINANCE ACKNOWLEDGEMENT

The DeKalb County First Source Ordinance requires contractors or beneficiaries of eligible projects entering into any type of agreement with the County, including purchase orders, regardless of what they may be called, for the procurement or disposal of supplies, services, construction projects, professional or consultant services, which is funded in whole or part with County funds or County administered funds in which the contractor is to receive \$50,000 or more in County expenditures or committed expenditures and recipient of urban redevelopment action grants or community development block funds administered in the amount of \$50,000 or more to make a good faith effort to hire DeKalb County residents for at least 50% of jobs created using the First Source Registry (candidate database) within one hundred twenty (120) days of contract execution. The work to be performed under this contract is subject to the provisions of the DeKalb County First Source Jobs Ordinance. All contractors will be asked to submit an *Employment Roster* and/or copies of active payroll registers on a monthly basis to verify compliance. The undersigned acknowledges and agrees to comply with the provisions of the DeKalb County First Source Jobs Ordinance.

CONTRACTOR OR BENEFICIARY INFORMATION:

Contractor or Beneficiary Name (Signature)
Contractor or Beneficiary Name (Printed)
Title
Telephone
Email
Name of Business
Please answer the following questions:
1. How many job openings do you anticipate filling related to this contract?
2. How many incumbents/existing employees will retain jobs due to this contract? DeKalb Residents: Non-DeKalb Residents:
3. How many work hours per week constitutes Full Time employment?
Please return this form to WorkSource DeKalb, fax (404) 687-4099 or email to FirstSourceJobs@dekalbcountyga.gov.

WorkSource DeKalb 774 Jordan Lane, Building #4, Decatur, GA 30033 (404) 687-3400 www.worksourcedekalb.org An Equal Opportunity Employer/Program and auxiliary aids and services are available upon request to individuals with disabilities.

$\frac{\textbf{FIRST SOURCE JOBS ORDINANCE INFORMATION}}{\underline{\textbf{EXHIBIT 2}}}$

NEW EMPLOYEE TRACKING FORM

Name of Bidder		
Address		
E-Mail		
Phone Number		
Fax Number		
Do you anticipate hiring from the First Source Ca		N (Circle one)
If so, the approximate number of employees you ant	icipate hiring:	
Type of Position (s) you anticipate hiring: (List position title, one position per line) Attach job description per job title:	The number you anticipate hiring:	Timeline

Please return this form to WorkSource DeKalb, fax (404) 687-4099 or email to FirstSourceJobs@dekalbcountyga.gov.

FIRST SOURCE JOBS ORDINANCE INFORMATION EXHIBIT 3

BUSINE	SS SERVICE REQUEST FORM
Please note: We need one form co	mpleted for each position that you have available.
DATE:	FEDERAL TAX ID:
COMPANY NAME:	WEBSITE:
ADDRESS:	
(WORKSITE ADDRESS IF DIFF	TERENT):
CONTACT NAME:	
CONTACT PHONE:	CONTACT FAX:
CONTACT E-MAIL ADDRESS:	
Are you a private employment age	ency or staffing agency? YES NO
JOB DESCRIPTION: (PLEASE I	INCLUDE A COPY OF JOB DESCRIPTION)
POSITION TITLE:	
NUMBER OF POSITIONS AVAI	LABLE: TARGET START DATE:
WEEKLY WORK HOURS: 20	0-30 hours □ 30-40 hours □ Other □
SPECIFIC WORK SCHEDULE:	
SALARY RATE(OR RANGE):	
PERM _ TEMP _ TI	EMP-TO-PERM SEASONAL SEASONAL
PUBLIC TRANSPORTATION A	CCESSIBILITY YES NO NO

Please return form to: Business Solutions Unit (First Source)

774 Jordan Lane Bldg. #4 Decatur, Ga. 30033 Phone: (404) 687-3400

FirstSourceJobs@dekalbcountyga.gov

FIRST SOURCE JOBS ORDINANCE INFORMATION EXHIBIT 4

EMPLOYMENT ROSTER DeKalb County

Contract Number:								
Project Name:								
Contractor:			_			Date:		
Name	Position:	Start Date	Hourly Rate of Pay	Hired for this Project? (yes/no)	Anticipated Length of Employment (Months)	% of Time Dedicated to the Project	Full or Part Time? (No. of Hours)	Georgia County of Residency

ATTACHMENT I

PREFERRED EMPLOYEE TRACKING FORM

Name of Proposer:	
Address:	
Email:	
Phone Number:	
Fax Number:	
Do you anticipate hiring from the WorkSource DeKalb Presentation Prese	
Type of Employee(s) or Position(s) you anticipate hiring:	The # you anticipate hiring:

APPENDIX 1

SPECIFICATIONS/CONSTRUCTION DOCUMENTS

INDEX TO SPECIFICATIONS/CONSTRUCTION DOCUMENTS

Section	<u>Title</u>
28 05 13	Wires and Cables - Splices and Terminations
28 05 28	Raceways
28 05 29	Supporting Devices
28 05 53	System Identification
28 31 00	Fire Detection and Alarm System

SECTION 28 05 13

WIRES AND CABLES - SPLICES AND TERMINATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Work specified elsewhere, as listed below but not limited to:
 - 1. Division 28 Sections
 - 2. Division 8 Builder's Hardware
 - 3. Division 11 Security Hardware
 - 4. Division 26 Electrical
 - 5. Division 21 Fire Suppression Systems
 - 6. Division 23 HVAC

1.2 SUMMARY

- A. The work covered under this section of the specifications consists of the installation of "all wiring" for conductor types for the security, communications and alarm systems as specified in Division 28. Conductors used for electronic signals transmission are specified with the specific system or equipment in other sections of Division 28 but shall also comply with this section of the specifications. Conductors or cables that extend beyond the buildings are included. All materials shall be provided under this section of the specifications.
 - 1. Coordinate installation of conductors with other work required under Division 28 specifications.
 - 2. Each type of system wiring shall not be installed in same raceway with other systems.
 - 3. Homeruns for locking devices shall be installed as shown on drawing. Combination of several locking devices shall not be grouped in single homerun unless shown on the drawings.
 - 4. Homeruns for systems specified in Division 28 shall not be combined in single homerun conduits in housing units from pod-to-pod, for systems such as intercoms, PA, microphones, etc. This is to isolate wiring in an associated POD from any other POD.
 - 5. Wire fill for any conduits shall not exceed 40 percent fill in any locations.
 - 6. Junction box and outlet boxes wire fill shall not exceed that allowed by NEC.
 - 7. All wiring or cables installed in a damp or wet location as defined by the NEC shall be UL listed for damp and wet locations.
 - 8. All conductors or cables shall have size, grade of insulation, voltage, UL listing, manufacturer's name and (if rated for damp and wet locations) permanently marked on the outer cover or jacket not exceeding 24".

1.3 QUALITY ASSURANCE

- A. Industry Referenced Standards. The following specifications and standards are incorporated into and become a part of this Specification by Reference.
 - 1. Underwriters' Laboratories, Inc. (UL) Publications:
 - a. No. 44 Rubber Insulated Wire and Cables
 - b. No. 83 Thermoplastic Insulated Wires
 - c. No. 493 Thermoplastic Insulated Underground Feeder and Branch Circuit Cables
 - d. No. 486 Wire Connectors and Soldering Lugs
 - 2. Insulated Cable Engineers Association Standards (ICEA):
 - a. S-61-402 Thermoplastic Insulated Wire and Cable

- 3. National Electrical Manufacturer's Standards (NEMA):
 - a. WC-5 Thermoplastic Insulated Wire and Cable
- 4. National Fire Protection Association Publication (NFPA):
 - a. No. 70 National Electrical Code (NEC)
- 5. ANSI EIA/TIA Standards
- B. Acceptable Manufacturers. Products produced by the following manufacturers which conform to this specification are acceptable.
 - 1. Hydraulically applied conductor terminations:
 - a. Square D
 - b. Burndy
 - c. Ilsco
 - d. Scotch (3M)
 - e. Thomas and Betts (T&B)
 - f. Anderson
 - 2. Mechanically applied (crimp) conductor terminations:
 - a. Scotch (3M)
 - b. Ideal
 - c. Thomas and Betts (T&B)
 - d. Burndy
 - 3. Vinyl electrical insulating tape:
 - a. Scotch (3M)
 - b. Tomic
 - c. Permacel
 - 4. Encapsulated insulating kits:
 - a. Scotch (3M)
 - b. Raychem
 - c. Essex Group, Inc.
 - 5. Portable cable fittings:
 - a. Crouse Hinds
 - b. Appleton
 - c. T&B
 - 6. Insulated cable:
 - a. Brand-Rex Co.
 - b. Cablec Corp.
 - c. Carol Cable Co., Inc.
 - d. The Okonite Co.
 - e. Pirelli Cable Corp.
 - f. Senator Wire and Cable Co.
 - g. Southwire Co.
 - h. Bolden
 - 7. Cables & wire shall be from the same manufacturer for like materials.
- C. Performance: Conductors shall be electrically continuous and free from splices, short circuits or grounds. All open, spliced, shorted or grounded conductors and any with damaged insulation shall be removed and replaced with new material free from defects.

PART 2 - PRODUCTS

- 2.1 GENERAL MATERIALS REQUIREMENTS
 - A. Provide all materials under this section of the specifications.

- B. All wire and cable shall be UL listed and shall bear a UL label along the conductor length at intervals not exceeding 24 inches.
- C. All conductors shall have size, grade of insulation, voltage and manufacturer's name permanently marked on the outer cover at intervals not exceeding 24 inches and as required by NEC.
- D. The minimum size of emergency electrical systems conductors feeding equipment shall not be smaller than allowed per NEC.
- E. Insulation voltage level must comply with NEC for cable used on specific system.

2.2 PRODUCT/MATERIALS DESCRIPTION

- A. Conductors No. 10 AWG and smaller shall be stranded copper, 90°C type THHN/THWN or XHHN, unless otherwise indicated on the drawings, as required by the National Electrical Code.
- B. Control conductors for use on 120 volt control wiring systems shall be No. 12 AWG stranded type THHN/THWN/XHHW, unless indicated otherwise on the drawings.
- C. Taps (No. 10 AWG and smaller) Connectors for stranded conductors shall be crimp-on type with integral insulating cover, or heat shrink rated at 600 volt 105°C.
- D. Taps (No. 8 and larger) Hydraulically applied crimping sleeve or tap connector sized for the conductors. Insulate the hydraulically applied connector with 90°C, 600 volt insulating cover provided by the connector manufacturer. Insulator materials and installation shall be approved for the specific application, location, voltage and temperature and shall not have an insulation value less than the conductors being joined.
- E. Electrical insulating tape shall be 600 volt, flame retardant, cold and weather resistant, minimally .85 mil thick plastic vinyl material; Scotch No. 88, Tomic No. 85, Permacel No. 295.

PART 3 - EXECUTION

3.1 EXECUTION

- A. Install all wiring in raceway system unless noted otherwise on the drawings.
- 3.2 Connect all conductors. Torque each terminal connection to the manufacturers recommended torque value. A calibrated torquing tool shall be used to ensure proper torque application. Termination torque values shall be provided as part of the shop drawings. At the request of the architect the Systems Integrator shall provide certification of calibration for each torquing device on the site as part of final testing and acceptance.
 - A. All conductors shall be tested to be continuous and free of short circuits and grounds.
 - B. Identification
 - 1. Conductors within pull boxes shall be grouped and identified with nylon tie straps with identification tag.
 - 2. Identify each control conductor at its terminal points with wrap around tape wire markers. I.D. to indicate terminal block and point designation, or other appropriate identifying indication.
 - 3. Refer to IDENTIFICATION section of these specifications for additional identification requirements.
 - C. Color Code Conductors.
 - Color code branch circuit conductors.

- 2. Coding shall be as follows:
 - a. 208Y/120 volt three-phase four-wire wye system:
 - 1) Phase A: Black
 - 2) Phase B: Red
 - 3) Phase C: Blue
 - 4) Neutral: White
 - b. Grounding conductors shall be green. Grounding conductors for isolated ground circuits shall be green with a yellow trace.
- D. Group and lace with nylon tie straps all conductors within enclosures, i.e., terminal cabinets, fire alarm cabinets, program instruments, control cabinets control panels etc.
- E. Terminate conductors No. 10 AWG and smaller specified in this division to be stranded, with crimp type lug or stud. Direct termination of stranded conductors without crimp terminator to terminal screws, lugs, or other points is not permitted even if terminal is rated for stranded conductors. Crimp terminal shall be of a configuration suitable for termination point. Make all crimps with a tool as listed by the manufacturer and as listed by UL for the crimp lug being used.
- F. Splices in conductors or cables are not permitted even if conductors are installed in a pull box.
- G. All cables installed in conduit underground or in slabs that is outside of the foot print of the building shall be shielded cable and be rated for direct burial.
- H. Install a #6 bare ground wire on top of all conduit runs outside of the footprint of the building and ground to a 10 ft ground rod at each end and every 100', this includes all duct banks. All connections shall be CAD welded.

END OF SECTION

SECTION 28 05 28

RACEWAYS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 26 05 48 Vibration and Seismic Control for Electrical Systems applies to the work of this section.

1.2 SUMMARY

- A. This section covers the complete interior and exterior raceway system.
- B. Definition: The term conduit, as used in this Specification, shall mean any or all of the raceway types specified.

1.3 QUALITY ASSURANCE

- A. Referenced Industry Standard: The following specifications and standards are incorporated into and become a part of this Specification by reference.
 - 1. Underwriters' Laboratories, Inc. (UL) Publications:
 - No. 1 Flexible Metal Electrical Conduit
 - b. No. 6 Rigid Galvanized Conduit
 - c. No. 467 Electrical Grounding and Bonding
 - d. No. 651 Rigid Nonmetallic Electrical Conduit
 - e. No. 797 Electrical Metallic Tubing
 - f. No. 1242 Intermediate Metal Conduit
 - 2. American National Standards Institute (ANSI):
 - a. C-80.1 Rigid Galvanized Conduit.
 - b. C-80.3 Electrical Metallic Tubing.3. National Fire Protection Association (NFPA):
 - a. No. 70 National Electrical Code (NEC).
- B. Acceptable Manufacturers: Products of the following manufacturers, which comply with these specifications, are acceptable.
 - 1. Metallic Conduit Fittings:
 - a. Appleton
 - b. Carlon
 - c. Crouse Hinds
 - d. Killark
 - e. O-Z/Gedney
 - f. RACO
 - g. Thomas and Betts
 - 2. Support Channel:
 - a. Kindorf
 - b. Powers
 - c. Unistrut
 - 3. Non-Metallic Conduit and Fittings:
 - a. Carlon
 - b. Certainteed

Thomas and Betts

C. Coordination

- 1. Coordinate conduit installation with all equipment furnished.
- 2. Coordinate conduit installation with contract documents and other contractors. Adjust installation to eliminate conflicts. Review all shop drawings submitted under this and other sections to insure coordination with all equipment requiring service and to avoid conflict interferences. Coordinate installation sequence with other contractors to avoid conflicts including equipment access and provide the fastest overall installation schedule.
- 3. The systems integrator shall provide certification of raceway coordination as part of the shop drawing submittals.

1.4 STORAGE AND HANDLING

- A. All materials shall be protected until installed in place on the project.
- B. All conduits stored on site prior to installation shall be stored on a surface off of the ground and shall be protected from the direct rays of the sun and from debris.
- C. Damaged, oxidized, warped, improperly stored material or material with foreign debris will be removed from the project and replaced with new materials.

PART 2 - PRODUCTS

2.1 GENERAL MATERIALS REQUIREMENTS

- A. Furnish all materials specified herein.
- B. All conduit and fittings shall be UL listed and bear a label by Underwriters' Laboratories for use as raceway system for electrical conductors.
- C. Raceway is required for all wiring, unless specifically indicated or specified otherwise.
- D. Size: The minimum size of conduit shall be 3/4". The size of all conduits shall be in accordance with the NEC, but, not less than indicated on the drawings. 3/8" flexible conduits may not be used for any application or connections to equipment specified in these sections of the specifications.

2.2 EMT CONDUIT FITTINGS

A. Electrical Metallic Tubing (EMT) couplings and connectors shall be steel "concrete tight" type. Malleable iron, die cast or pressure cast fittings are not permitted. Fittings 2.0" and smaller shall be gland and ring compression type. Connectors for conduits 2.5" and larger shall be set screw type with two (2) screws each or compression type. Couplings for conduits 2.5" and larger shall be set screw type with four (4) screws each or compression type. All connectors shall be insulated throat type.

2.3 RIGID AND IMC CONDUIT FITTINGS

A. Fittings for rigid steel and IMC conduit shall be standard threaded couplings, locknuts, bushings and elbows. All materials shall be steel or malleable iron only. Set screw or non-threaded fittings are not permitted. Bushings shall be metallic insulating type consisting of insulating insert molded or locked into the metallic body of the fittings.

2.4 NON-METALLIC CONDUIT AND FITTINGS

A. Non-metallic conduit shall be heavy wall, Schedule 80 PVC.

B. Non-metallic conduit fittings shall be of the same material as the conduit furnished and be the product of the same manufacturer. Glue used for non-metallic conduit shall be as specified by the manufacturer of the conduit provided.

2.5 METALLIC CONDUIT AND FITTINGS

- A. All parts and hardware shall be zinc-coated or have equivalent corrosion protection.
- B. Conduit straps shall be single-hole cast metal type or two-hole galvanized metal type. Conduit clamps made of spring steel shall not be used for any reason, except on metal stud walls.
- C. Conduit support channels shall be 1.5" x 1.5" x 14 gauge galvanized (or with equivalent treatment) channel. Channel suspension shall be 3/8" threaded steel rods. Use swivel type connector to attach suspension rods to structure. Spring steel clips are not acceptable. Wire or chain is not acceptable for conduit hangers.
- D. Individual conduit hangers shall be galvanized spring steel specifically designed for the purpose, sized appropriately for the conduit type and diameter, and have pre-assembled closure bolt and nut and provisions for receiving threaded hanger rod. Support with 1/4" threaded steel rod for individual conduits 1.5" and smaller and 3/8" rod for individual conduits 2.0" and larger.
- E. Individual conduit straps on metal studs shall be spring steel and should wrap around entire face of stud securely biting into both edges and have provisions for screwing into stud. Sized for conduit to be supported. Tie wraps are not acceptable.
- F. Support multiple conduits from metal studs using preassembled bar hanger assembly consisting of hanger bar, retaining clips and conduit straps.
- G. Refer to Section 28 05 29 SUPPORTING DEVICES of these specifications for additional material requirements.

2.6 FLEXIBLE CONDUIT AND FITTINGS

- A. Flexible conduit shall be steel metallic type. Where specified herein, indicated on the drawings, or when used in damp or wet locations, as classified by the National Electrical Code, flexible conduit shall be liquid tight.
- B. All flexible conduit shall be classified as suitable for system grounding.
- C. Connectors for flexible conduit shall be steel insulated throat type rated as suitable for system ground continuity. Connectors for liquid tight flexible conduit shall be screw-in ground cone type.
- D. Flexible conduit shall not be less than 1/2" trade size and in no case shall flexible conduit size be less than permitted by the National Electrical Code for the number and size of conductors to be installed herein.

2.7 MISCELLANEOUS CONDUIT FITTINGS AND ACCESSORIES

- A. Vinyl all weather electrical tape for corrosion protection shall be Scotch #88, Tomic #85, Permacel #295.
- B. Expansion and deflection couplings shall be in accordance with UL 467 and UL 514. They shall accommodate 3/4" deflection, expansion, or contraction in any direction and shall allow 30 degree angular deflections. Couplings shall contain an internal flexible metal braid to maintain raceway system ground continuity.
- C. Fire and smoke stop materials shall be rock wool fiber, silicone foam, or silicone sealant, UL rated to maintain the fire floor or fire wall partition rating.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General

- 1. Conceal all conduits, except in unfinished spaces such as equipment rooms or where indicated by symbol on the drawings.
- 2. Leave all empty conduits with a 200 pound test nylon cord pull line extending a minimum of 24 inches from the end of the conduits.
- 3. Install complete raceway runs prior to installation of cables or wires. Cables and wire run in incomplete raceways shall be removed and replaced.
- 4. Flattened, dented, or deformed conduits are not permitted and shall be removed and replaced.
- 5. Secure rigid conduit i.e., rigid galvanized conduit and intermediate metal conduit, to sheet metal enclosures with two (2) locknuts and insulated bushing. Secure EMT to sheet metal enclosures with insulated throat connectors.
- 6. Fasten conduit support device to structure with wood screws on wood, toggle bolts on hollow masonry, anchors as specified on solid masonry or concrete, and machine bolts, clamps, or spring steel clips, on steel. Nails are not acceptable.
- 7. Protect conduits against dirt, plaster, and foreign debris with conduit plugs. Plugs shall remain in place until all masonry is complete. Protect conduit stub-ups during construction from damage; any damaged conduits shall not be used.
- 8. Seal all conduits originating from outside building from below grade, all conduits entering refrigerated spaces, i.e., freezers and coolers, and all conduits entering exterior mounted electrical equipment with insulating electrical putty to prevent entrance of moisture.
- 9. Install conduit with wiring, including homeruns as indicated on the drawings. Any change resulting in a savings in labor or materials is to be made only in accordance with a contract change. Deviations shall be made only where necessary to avoid interferences and when approved by Architect by written authorization.
- 10. Conduits which penetrate roof membranes shall be installed in accordance with manufacturer's recommendations and architectural specifications. The Systems Integrator shall coordinate roof penetrations with the roofing contractor.
- 11. Install a complete telephone/data, video visitation/arraignment raceway systems as specified in other section of these specifications and as indicated on the drawings. The minimum conduit size shall be not less than 1 inch. All bends in conduit shall be long sweep radius. Install no more than two 90 degree bends in raceways between pull or outlet boxes and backboard/cabinets. Install no more than two outlet boxes on the same home run unless approved by the Owner.
- 12. Separate raceway systems are to be installed for power systems and for control, signal and communications systems. Do not install control, signal or communications cables in the same raceways, unless indicated otherwise on the drawings.
- 13. Provide expansion fitting in all conduits where length of run exceeds 200 feet or where conduits pass building expansion joints.

B. Uses Permitted

- 1. Conduits installed within concrete floor slabs which are in direct contact with grade shall be galvanized rigid steel (GRS) or intermediate metal conduit (IMC). Conduits which penetrate the building roof shall be galvanized rigid steel (GRS) or intermediate metal conduit (IMC). Conduits installed within concrete floor slabs which are above grade shall be galvanized rigid steel (GRS), intermediate metal conduit (IMC), or schedule 80 Heavy Wall PVC. Where transition is made from raceway in slab to any type of raceway out of slab, make transition with rigid galvanized elbow. For corrosion protection, where elbow penetrates surface, wrap with vinyl all weather electrical tape or coat with bituminous asphaltic compound, for 6" above and below concrete surface.
- 2. Conduits installed in direct contact with earth shall be schedule 80, heavy wall PVC.

- 3. All other conduit, unless excluded herein, not permitted in accordance with the National Electrical Code, or otherwise indicated on the drawings, shall be electrical metallic tubing (EMT).
- 4. Conduit types shall not be mixed indiscriminately with other types in the same run, unless specified herein or required by the NEC.
- 5. Use flexible conduit for connections flush mounted Division 28 Devices.
 - a. Flexible conduit shall not be used above hard ceilings sheetrock or plaster, etc.
 - b. Flexible conduit from outlet box to flush mounted devices shall not exceed 6-ft. in length.
 - c. Maintain ground continuity through flexible conduit with green equipment grounding conductor; do not use flexible conduit for ground continuity.
 - d. Liquid tight conduit shall be used to connect equipment in the kitchen area, laundry area, mechanical equipment rooms, exterior installations, below access floors connecting data processing other equipment.
- 6. No conduit requiring cutting of cross-webs of concrete masonry units is permitted. Conduit shall be threaded through cells or concrete masonry units lowered around conduit. Neither horizontal joint reinforcement nor bond beam reinforcement shall be cut for conduit installation.
- 7. All conduits installed exposed from the finished floor to a minimum height of 10 ft. above the floor shall be galvanized rigid steel (GRS) or intermediate metallic conduit (IMC).
- 8. Any conduits installed exposed, which have been specifically indicated on the drawings as acceptable, in areas accessible to inmates shall be galvanized rigid steel.
- 9. Where hazardous locations, as classified by the National Electrical Code, exist, all conduits and fittings and the installation of these materials shall comply with Article 500 of the National Electrical Code.
- 10. All conduits entering refrigerated spaces shall be galvanized rigid steel.
- 11. Concrete encased underground duct banks shall be installed where indicated on the drawings for communication cable system. Duct bank conduits shall be non-metallic.

C. Below Grade Raceway Installations

- 1. Direct Burial Conduit
 - a. Install top of conduits 24" minimum below finished grade.
 - b. Install top of conduits 6" minimum below bottom of building slabs.
 - c. Install top of conduits 30" minimum below grade, below roads and any other paved surfaces.
 - d. Where transition is made from below grade PVC installation to a metallic conduit system above grade or slab, make transition with long sweep rigid galvanized elbow and extend through slab or above grade with galvanized rigid steel conduit. For corrosion protection, where the elbow penetrates surface, wrap with vinyl all weather electrical tape or coat with bituminous asphaltic compound, for 6" above and below concrete surface.
 - e. For excavation and backfilling, refer to earthwork specification section.
 - f. Conduit shall be run following the most direct route between points.

2. Duct Bank

- a. Duct bank configuration shall be in accordance with the details indicated on the drawings.
- b. Duct banks shall be installed with top of concrete not less than 24" below finished grade or pavement nor more than 36" unless position of existing underground utilities prevents installation at this depth. Under such conditions, depth may be reduced in accordance with the National Electrical Code. Refer to EARTHWORK section of the specification for excavation and backfilling. The bottom of the conduit trench shall be flat and level.
- c. Conduits shall be anchored to and supported in the trench with fiber or plastic conduit spacers, designed and provided by the manufacturer for the purpose, and installed not more than 5 foot on center. Stagger conduit couplings a minimum of 12".
- d. Change in direction exceeding 10 degrees shall be made with long sweep bends with minimum radius of curvature of 25 ft. All 90 degree elbows shall be factory made and shall be long sweep type (24" minimum radius).

- e. Conduit joints shall be watertight and shall be made by the application of PVC solvent, specified by the manufacturer of the conduit. Solvent shall be applied to interior of coupling and exterior of conduit, in accordance with manufacturer's recommendations.
- f. Concrete for use with duct banks shall be 2500 lb. concrete with 1/2" aggregate. Slump shall be between 7" and 8". Refer to CONCRETE section of these specifications for additional requirements for concrete.
- g. Below all roads and paved areas, duct banks shall be reinforced by the installation of No. 5 bars 6" on center at each corner and on all sides, parallel to duct, and with continuous No. 3 bar perpendicular to duct on 16" centers. Concrete cover for reinforced duct banks shall be not less than 6" with not less than 3" of concrete cover on reinforcing steel. Where reinforced duct bank is provided, reinforcing shall extend not less than 10 ft. beyond each side of road or paved area.
- h. All open conduit ends shall be plugged during construction to prevent water, mud, concrete and debris from entering duct banks and manholes. Prior to the installation of cables, each conduit shall be cleaned by pulling a standard, flexible mandrel not less than 12" long, with diameter approximately 1/4" less than inside diameter of conduit, through the conduit. In addition, a brush with soft bristles and diameter approximately equal to inside diameter of conduit shall be pulled through conduit.
- i. All duct banks shall be sloped to drain toward manholes and shall be laid with a minimum grade of 4" per 100 ft. Terminations in manholes shall be made with bell ends.
- Construction of duct banks shall proceed from one end to the other, not from each end to the center.
- k. The Contractor shall notify the Owner's personnel prior to backfilling any trenches to allow the Owner to review and witness the backfilling of trenches.

D. Raceway Installations Within Concrete

- 1. Conduit shall be run following the most direct route between points.
- 2. Conduit shall not be installed in concrete which is less than 3" thick or where the outside diameter is larger than 1/3 of the slab thickness.
- 3. Conduits installed in concrete slabs shall be buried in the concrete slab. Wire low conduits to upper side of the bottom reinforcing steel, and upper conduits to the lower side of the top reinforcing steel. Separate parallel runs of conduits within slab by at least 1".
- 4. Conduits shall not be installed within shear walls unless specifically indicated on the drawings. Conduits shall not be run directly below and parallel with load bearing walls
- 5. Protect each metallic conduit installed in concrete slab or conduits 1.5" and smaller passing through a concrete slab against corrosion where conduit enters and leaves concrete by wrapping conduit with vinyl all-weather electrical tape.
- 6. The maximum projection of conduit stub-up and bushing above slab shall be 3".
- 7. Protect all conduits entering and leaving concrete floor slabs from physical damage during construction.
- 8. Install all conduits penetrating rated fire floors to maintain the fire rating of the floor penetrated.

E. Concealed (Above Ceilings and in Walls) and Exposed Raceway Installation

- 1. Conduit shall be run parallel or at right angles to existing walls, ceilings, and structural members.
- 2. Support conduits at intervals not exceeding 10 ft. and within three feet of each outlet, junction box, cabinet or fitting. Attach individual conduits to structural steel members with beam conduit clamps and to non-metallic structural members with two-hole conduit straps. For exposed conduits and where conduits must be suspended below structure, single conduit runs shall be supported from structure by hangar rod and conduit clamp assembly. Multiple conduits shall be supported by trapeze type support suspended from structure. Do not attach conduits to ceiling suspension system channels or suspension wires.
- 3. Attach conduits larger than 1 inch trade diameter to or from structure on intervals not exceeding 10 ft. with conduit beam clamps, one-hole conduit straps or trapeze type support in accordance with support systems described for conduits.

- 4. Exposed conduits shall be painted, see painting section of the specifications.
- 5. Conduits shall not pass through structural members.
- 6. Install conduit sleeves in slabs where conduits 2 inches and larger pass through. Sleeves shall extent 1 inch minimum above finished slab. Seal all spare sleeves and between conduits and sleeves to maintain fire rating and to make watertight and smoketight.
- Install all conduits or sleeves penetrating rated fire walls or fire floors to maintain fire rating of wall or floor.
- 8. Conduits rigidly secured to building construction on opposite sides of a building expansion joint shall be provided with an expansion and deflection coupling. In lieu of an expansion coupling, conduits 2-1/2 inches and smaller may be provided with junction boxes on both sides of the expansion joint connected by 15 inches of slack flexible conduit with bonding jumper.
- 9. Do not install exposed conduit systems in inmate housing area and other areas normally accessible to inmates unless such installations are specifically indicated on the drawings. Where exposed conduit is indicated on the drawings, all conduits shall be rigid metallic type and all outlet boxes shall be cast metal type with threaded hubs.
 - a. Install conduits flat against wall; offsets or "kicks" shall be permitted only to enter outlet box
 - Support conduits on centers not exceeding 5 feet and within 12 inches of each outlet box using two-hole conduit straps attached to surface with nonremovable break off security type bolts

3.2 ADJUSTMENT, CLEANING AND PROTECTION

- A. Clean: Upon completion, clean all installed materials of paint, dirt, and construction debris. All conduit systems shall be cleaned of water and debris prior to the installation of any conductors. The Owner shall observe the cleaning of the conduit systems prior to pulling wire.
- B. All open conduit ends shall be plugged during construction to prevent water, mud, concrete and debris from entering duct banks and manholes. Prior to installation of cables, each conduit shall be cleaned by pulling a standard, flexible mandrel not less than twelve inches long, with diameter approximately 1/4" less than inside diameter of conduit, through the conduit. In addition, a brush with soft bristles and diameter approximated equal to inside diameter of conduit shall be pulled through conduit.

3.3 EXCAVATION, TRENCHING AND BACKFILLING

- A. Perform all excavation to install conduits, duct banks, manholes as indicated on the drawings or specified herein. During excavation, pile material for backfilling back from the banks of the trench to avoid overloading and to prevent slides and cave-ins. Provide shoring as required by OSHA Standards. Remove and dispose of all excavated materials not to be used for backfill. Grade to prevent surface water from flowing into trenches and excavation. Remove any water accumulating therein by pumping. Do all excavation by open cut. No tunneling shall be done unless indicated on the drawings or unless written permission is received from the Architect.
- B. Grade the bottom of trenches to provide uniform bearing and support for conduits, or duct bank on undisturbed soil at every point along its entire length. Tamp overdepths with loose, granular, moist earth. Remove unstable soil that is not capable of supporting equipment or installation and replace with specified material for a minimum of 12 inches below invert of equipment or installation.
- C. Backfill the trenches with excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand and gravel or soft shale, free from large clods of earth and stones, deposited in 6 inch layers and rammed until the installation has a cover of not less than the adjacent ground but not greater than 2 inches above existing ground. Backfilling shall be carried on simultaneously on both sides of the trench so that injurious pressures do not occur. Compaction of the filled trench shall be at least equal to that of the surrounding undisturbed material. Do not settle backfill with water. Reopen any trenches not meeting

compaction requirements or where settlement occurs, refill, compact, and restore surface to grade and compaction indicated on the drawings, mounded over and smoothed off. The Owner shall observe all backfilling of trenches and excavations.

END OF SECTION

SECTION 28 05 29

SUPPORTING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 26 05 48 Vibration and Seismic Control for Electrical Systems applies to the work of this section.

1.2 SUMMARY

- A. Extent of supports, anchors, sleeves and seals is indicated by drawings and schedules and/or specified in other Division or sections of these specifications.
- B. Types of supports, anchors, sleeves and seals specified in this section include the following:
 - 1. Clevis hangers.
 - 2. Riser clamps.
 - 3. C-clamps.
 - 4. I-beam clamps.
 - 5. One-hole conduit straps.
 - 6. Two-hole conduit straps.
 - 7. Round steel rods.
 - 8. Expansion anchors.
 - 9. Toggle bolts.
 - 10. Wall and floor seals.
- C. Supports, anchors, sleeves and seals furnished as part of factory fabricated equipment are specified as part of that equipment assembly in other Division or sections of these specifications.

1.3 QUALITY ASSURANCE

- A. NEC Compliance: Comply with NEC requirements as applicable to construction and installation of electrical supporting devices.
- B. NECA Compliance: Comply with National Electrical Contractors Association's "Standard of Installation" pertaining to anchors, fasteners, hangers, supports, and equipment mounting.
- C. UL Compliance: Provide electrical components which are UL-listed and labeled.
- D. FS Compliance: Comply with Federal Specification FF-S-760 pertaining to retaining straps for conduit, pipe and cable.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's data on supporting devices including catalog cut sheets, specifications, and installation instructions, for each type of support, anchor, sleeve and seal.
- B. Shop Drawings: Submit dimensioned drawings of fabricated products, indicating details of fabrication and materials.

PART 2 - PRODUCTS

2.1 MANUFACTURED SUPPORTING DEVICES

- A. General: Provide supporting devices which comply with manufacturer's standard materials, design and construction in accordance with published product information, and as required for complete installation; and as herein specified. Where more than one type of supporting device meets indicated requirements, selection is Installer's option.
- B. Supports: Provide supporting devices of types, sizes and materials indicated; and having the following construction features:
 - 1. Clevis Hangers: For supporting 2" rigid metal conduit; galvanized steel; with 1/2" diameter hole for round steel rod; approximately 54 lbs. per 100 units.
 - 2. Riser Clamps: For supporting 5" rigid metal conduit; black steel; with 2 bolts and nuts, and 4" ears; approximately 510 lbs. per 100 units.
 - 3. Reducing Couplings: Steel rod reducing coupling, 1/2" x 5/8"; black steel; approximately 16 lbs. per 100 units.
 - 4. C-Clamps: Black malleable iron; 1/2" rod size; approximately 70 lbs. per 100 units.
 - 5. I-Beam Clamps: Black steel, 1-1/4" x 3/16" stock; 3/8" cross bolt; flange width 2"; approximately 52 lbs. per 100 units.
 - 6. One-Hole Conduit Straps: For supporting 3/4" rigid metal conduit; galvanized steel; approximately 7 lbs. per 100 units.
 - 7. Two-Hole Conduit Straps: For supporting 3/4" rigid metal conduit, galvanized steel; 3/4" strap width; and 2-1/8" between center of screw holes.
 - 8. Hexagon Nuts: For 1/2" rod size; galvanized steel; approximately 4 lbs. per 100 units.
 - 9. Round Steel Rod: Black steel; 1/2" diameter; approximately 67 lbs. per 100 feet.
 - 10. Offset Conduit Clamps: For supporting 2" rigid metal conduit; black steel; approximately 200 lbs. per 100 units.
- C. Anchors: Provide anchors of types, sizes and materials indicated, with the following construction features:
 - 1. Toggle Bolts: Springhead; 3/16" x 4"; approximately 5 lbs. per 100 units.
 - 2. Expansion sleeve anchors by Hilti or Phillips Redhead: 1/2"; approximately 38 lbs. per 100 units.
 - 3. Manufacturers: Subject to compliance with requirements, provide anchors of one of the following:
 - a. Ackerman Johnson Fastening Systems Inc.
 - b. Hilti
 - c. Ideal Industries, Inc.
 - d. Joslyn Mfg and Supply Company
 - e. McGraw Edison Company
 - f. Phillips Redhead
 - g. Rawlplug Company Inc.
- D. Sleeves and Seals: Provide sleeves and seals, of types, sizes and materials indicated, with the following construction features:
 - Wall and Floor Seals: Provide factory assembled watertight wall and floor seals, of types and sizes
 indicated; suitable for sealing around conduit, pipe, or tubing passing through concrete floors and
 walls. Construct seals with steel sleeves, malleable iron body, neoprene sealing grommets and
 rings, metal pressure rings, pressure clamps, and cap screws.
- E. U-Channel Strut Systems:
 - 1. Provide U channel strut system for supporting electrical equipment, 12 gage hot dip galvanized steel, of types and sizes indicated; construct with 9/16" diameter holes, 8" o.c. on top surface, with standard green finish, and with the following fittings which mate and match with U channel.
 - a. Channel hangers.

- b. End caps.
- c. Beam clamps.
- d. Wiring studs.
- e. Thinwall conduit clamps.
- f. Rigid conduit clamps.
- g. Conduit hangers.
- h. U bolts.
- 2. Manufacturers: Subject to compliance with requirements, provide channel systems of one of the following:
 - a. Allied Tube and Conduit Corporation.
 - b. B Line Systems, Inc.
 - c. Elcen Metal Products Company.
 - d. Greenfield Mfg Company, Inc.
 - e. Midland-Ross Corporation.
 - f. OZ/Gedney Div.; General Signal Corporation.
 - g. Power-Strut Div.; Van Huffel Tube Corporation.
 - h. Unistrut Div.; GTE Products Corporation.

2.2 FABRICATED SUPPORTING DEVICES

- A. Pipe Sleeves: Provide pipe sleeves of one of the following:
 - 1. Sheet Metal: Fabricate from galvanized sheet metal; round tube closed with snaplock joint, welded spiral seams, or welded longitudinal joint. Fabricate sleeves from the following gage metal: 3" and smaller, 20-gage; 4" to 6", 16-gage; over 6", 14" gage.
 - 2. Steel Pipe: Fabricate from Schedule 40 galvanized steel pipe.
 - 3. Iron Pipe: Fabricate from cast-iron or ductile-iron pipe.
 - 4. Plastic Pipe: Fabricate from Schedule 80 PVC plastic pipe.
- B. Sleeve Seals: Provide modular mechanical type seals, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between pipe and sleeve, connected with bolts and pressure plates which cause rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

PART 3 - EXECUTION

3.1 INSTALLATION OF SUPPORTING DEVICES

- A. Install hangers, anchors, sleeves and seals as indicated, in accordance with manufacturer's written instructions and with recognized industry practices to insure supporting devices comply with requirements. Comply with requirements of NECA and NEC for installation of supporting devices.
- B. Coordinate with other Division 28 work, including raceway and wiring work, as necessary to interface installation of supporting devices with other work.
- C. Install hangers, supports, clamps and attachments to support piping properly from building structure. Arrange for grouping of parallel runs of horizontal conduits to be supported together on trapeze type hangers where possible. Install supports in compliance with NEC requirements.
- D. Torque sleeve seal nuts, complying with manufacturer's recommended values. Ensure that sealing grommets expand to form watertight seal.
- E. Remove burrs from ends of pipe sleeves.

END OF SECTION

SECTION 28 05 53

SYSTEM IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Extent of Division 28 identification work is as outlined by this specification.
- B. Types of identification work specified in this section include the following but not limited to. See other Sections of these specifications:
 - 1. Buried cable warnings.
 - 2. Electrical power, control and communication conductors.
 - 3. Operational instructions and warnings.
 - 4. Danger signs.
 - 5. Equipment/system identification signs.
- C. Refer to Division 28 section INTEGRATED SECURITY SYSTEMS GENERAL, for equipment and system nameplates, and performance data; not work of this section.

1.3 QUALITY ASSURANCE

- A. NEC Compliance: Comply with NEC as applicable to installation of identifying labels and markers for wiring and equipment.
- B. UL Compliance: Comply with applicable requirements of UL Std. 969, "Marking and Labeling Systems", pertaining to electrical identification systems.
- C. ANSI Compliance: Comply with applicable requirements of ANSI Std. A13.1, "Scheme for the Identification of Piping Systems".
- D. NEMA Compliance: Comply with applicable requirements of NEMA Std. No's WC-1 and WC-2 pertaining to identification of power and control conductors.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's data on electrical identification materials and products.
- B. Samples: Submit samples of each color, lettering style and other graphic representation required for each identification material or system.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide electrical identification products of one of the following (for each type marker):
 - 1. Almetek
 - 2. Brady, W.H. Company

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- 3. Calpico Inc.
- 4. Cole-Flex Corporation
- 5. Direct Safety Company
- 6. George-Ingraham Corporation
- 7. Griffolyn Company
- 8. Ideal Industries, Inc.
- 9. LEM Products, Inc.
- 10. Markal Company
- 11. National Band and Tag Company
- 12. Panduit Corporation
- 13. Seton Name Plate Company
- 14. Tesa Corporation

2.2 ELECTRICAL IDENTIFICATION MATERIALS

A. Except as otherwise indicated, provide manufacturer's standard products of categories and types required for each application. Where more than single type is specified for an application selection is Installer's option, but provide single selection for each application.

B. Color-Coded Plastic Tape:

- 1. Provide manufacturer's standard self-adhesive vinyl tape not less than 3 mils thick by 1-1/2" wide.
 - a. Colors: Unless otherwise indicated or required by governing regulations, provide orange tape.

C. Underground-Type Plastic Line Marker:

1. Manufacturer's standard permanent, bright-colored, continuous-printed plastic tape, intended for direct-burial service; not less than 6" wide x 4 mils thick. Provide tape with printing which most accurately indicates type of service of buried cable.

D. Cable/Conductor Identification Bands:

1. Provide manufacturer's standard vinyl-cloth self-adhesive cable/conductor markers of wrap-around type, either pre-numbered plastic coated type, or write-on type with clear plastic self-adhesive cover flap; numbered to show circuit identification.

E. Plasticized Tags:

1. Manufacturer's standard pre-printed or partially pre-printed accident-prevention and operational tags, of plasticized card stock with matte finish suitable for writing, approximately 3-1/4" x 5-5/8", with brass grommets and wire fasteners, and with appropriate pre-printed wording including large-size primary wording, e.g., DANGER, CAUTION, DO NOT OPERATE.

F. Self-Adhesive Plastic Signs:

- 1. Provide manufacturer's standard, self-adhesive or pressure-sensitive, pre-printed, flexible vinyl signs for operational instructions or warnings; of sizes suitable for application areas and adequate for visibility, with proper wording for each application, e.g., 208V, EXHAUST FAN, RECTIFIER.
- 2. Colors: Unless otherwise indicated, or required by governing regulations, provide white signs with black lettering.

G. Baked Enamel Danger Signs:

1. General: Provide manufacturer's standard "DANGER" signs of baked enamel finish on 20-gage steel; of standard red, black and white graphics; 14" x 10" size except where 10" x 7" is the largest size which can be applied where needed, and except where larger size is needed for adequate vision; with recognized standard explanation wording, e.g., HIGH VOLTAGE, KEEP AWAY, BURIED CABLE, DO NOT TOUCH SWITCH.

H. Engraved Plastic-Laminate Signs:

- 1. Provide engraving stock melamine plastic laminate, complying with FS L-P-387, in sizes and thicknesses indicated, engraved with engraver's standard letter style of sizes and wording indicated, black face and white core plies (white letter color) except as otherwise indicated, punched for mechanical fastening except where adhesive mounting is necessary because of substrate.
- 2. Thickness: 1/8", except as otherwise indicated.
- 3. Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate substrate.

2.3 LETTERING AND GRAPHICS

- A. General: Coordinate names, abbreviations and other designations used in electrical identification work, with corresponding designations shown, specified or scheduled. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturer or as required for proper identification and operation/maintenance of electrical systems and equipment. Comply with ANSI A13.1 pertaining to minimum sizes for letters and numbers.
- B. As part of the close out documentation the Systems Integrator shall provide a complete typed legend of all wire and equipment including full descriptions and locations.

PART 3 - EXECUTION

3.1 APPLICATION AND INSTALLATION

A. General Installation Requirements:

- 1. Install electrical identification products as indicated, in accordance with manufacturer's written instructions, and requirements of NEC and OSHA.
- 2. Coordination: Where identification is to be applied to surfaces which require finish, install identification after completion of painting.
- Regulations: Comply with governing regulations and requests of governing authorities for identification of electrical work.

B. Conduit Identification:

1. Where electrical conduit is specified to be exposed identified by color-coded method, apply color-coded identification on electrical conduit. Color code for conduit must be submitted with shop drawings for approval.

C. Box Identification:

1. After completion, use an indelible wide tip marker to indicate on each junction and pull box and their covers the designation of the circuits contained therein, i.e., A-1, 3, 5, fire alarm, locking, etc., for each system specified in Division 28.

D. Underground Cable Identification:

- 1. During back-filling/top-soiling of each exterior underground electrical, signal or communication cable, install continuous underground type plastic line marker, located directly over buried line at 6" to 8" below finished grade. Where multiple small lines are buried in a common trench and do not exceed an overall width of 16", install a single line marker.
- 2. Install line marker for every buried cable, regardless of whether direct-buried or protected in conduit or duct bank.

E. Cable/Conductor Identification:

1. Apply cable/conductor identification, including voltage, phase and feeder number, on each cable/conductor in each box/enclosure/cabinet where wires of more than one circuit or communication/signal system are present. Match identification with marking system used in

panelboards, shop drawings, contract documents, and similar previously established identification for project's electrical work. Refer to WIRES AND CABLES section of these specifications for color coding requirements. All wiring identification shall match as built drawings.

F. Operational Identification and Warnings:

1. Wherever required by OSHA or directed by the Owner, to ensure safe and efficient operation and maintenance of electrical systems, and electrically connected mechanical systems and general systems and equipment, including prevention of misuse of electrical facilities equipment by unauthorized personnel, install self-adhesive plastic signs or similar equivalent identification, instruction or warnings on switches, outlets and other controls, devices and covers of electrical enclosures. Where detailed instructions or explanations are needed, provide plasticized tags with clearly written messages adequate for intended purposes.

G. Danger Signs:

- In addition to installation of danger signs required by governing regulations and authorities, install
 appropriate danger signs at locations indicated and at locations subsequently identified by Installer
 of electrical work or the Owner as constituting similar dangers for persons in or about project.
 - a. High Voltage: Install danger signs wherever it is possible, under any circumstances, for persons to come into contact with electrical power of voltages higher than 110-120 volts.
 - b. Critical Switches/Controls: Install danger signs on switches and similar controls, regardless of whether concealed or locked up, where untimely or inadvertent operation (by anyone) could result in significant danger to persons, or damage to or loss of property.

H. Equipment/System Identification:

- Install engraved plastic-laminate sign on each major unit of equipment in building; including central or master unit of each electrical system including communication/control/signal systems, unless unit is specified with its own self-explanatory identification or signal system. Except as otherwise indicated, provide single line of text, 1/2" high lettering, on 1-1/2" high sign (2" high where 2 lines are required), white lettering in black field. Provide text matching terminology and numbering of the contract documents and shop drawings. Provide signs for each unit of the following categories of electrical work:
 - a. Access panel/doors to electrical facilities.
 - b. Battery racks.
 - c. Telephone switching equipment.
 - d. Call system master station.
 - e. TV/audio monitoring master station.
 - f. Fire alarm master station.
 - g. Security monitoring master station.
 - h. All Division 28 Equipment Cabinets.
- 2. Install signs at locations indicated or, where not otherwise indicated, at location for best convenience of viewing without interference with operation and maintenance of equipment. Secure to substrate with fasteners, except use adhesive where fasteners should not or cannot penetrate substrate. Identification of flush mounted cabinets and panelboards shall be on the outside of the device.

END OF SECTION

SECTION 28 31 00

FIRE DETECTION AND ALARM SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Labor, products, equipment and services necessary to complete the work of this Section.

1.2 DESCRIPTION:

- A. This section of the specification includes the furnishing, installation, and connection of an analog addressable fire alarm system. The system will feature intelligent reporting, microprocessor controlled, addressable, fire detection. It shall include, but not be limited to, alarm initiating devices, alarm notification appliances, control panels, auxiliary control devices, annunciators, power supplies, and wiring to accommodate devices as shown on the drawings and specified herein. The fire alarm system shall be electrically supervised and monitor the integrity of all conductors.
- B. The system shall be an active/interrogative type system where each addressable device is repetitively scanned, causing a signal to be transmitted to the main fire alarm control panel (FACP) indicating that the device and its associated circuit wiring is functional. Loss of this signal at the main FACP shall result in a trouble indication as specified hereinafter for the particular input.
- C. The system detection devices will be capable of being adjusted in sensitivity from the main fire alarm supervising station.
- D. The scope of work consists of the replacement of an existing Edwards fire alarm system along with upgrading notification appliances where code requires. The existing wiring may be reused based on acceptable test results. No mechanical splices will be permitted. Splicing shall be accomplished by proper solder ad insulating techniques.
- E. Under the Dekalb County Jail (DCJ) project, the fire alarm system will have been configured and staffed as a proprietary supervising station. The supervising station is located in 24 hour staff central control post. The supervising station features a graphical user interface (GUI) in the form of a facility map which annunciates visually and audibly all system events located on the graphic. The work of this contract will report to the Main Fire Alarm panel in the Dekalb County Jail (DCJ) and through it to the supervising station graphic workstation. A system printer is included at the supervising station.
- F. Each designated zone shall transmit separate and different alarm, supervisory and trouble signals to the Proprietary Supervising Station and the main Fire Alarm Control Panel in the Fire Command Center (FCC) and designated personnel in other buildings at the site via a multiplex communication network. See drawings for fire alarm zoning.
- G. The system and its components shall be Underwriters Laboratories, Inc. listed under the appropriate UL testing standard as listed herein for fire alarm applications and the installation shall be in compliance with the UL listing.
- H. The installing company shall employ NICET Level 3 Certified supervision on site to guide the installation and final check-out and to ensure the systems integrity.

1.3 SCOPE

- A. A new analog addressable fire alarm system featuring intelligent reporting, microprocessor controlled fire detection system shall be installed in accordance with the specifications and drawings.
- B. The system shall be designed such that each signaling line circuit (SLC) is limited to only 80% of its total capacity at initial installation.

C. Basic Performance:

- 1. Alarm, trouble and supervisory signals from all intelligent reporting devices shall be encoded on NFPA Class A Signaling Line Circuits (SLC).
- 2. Initiation Device Circuits (IDC) shall be wired Class A as part of an addressable device connected by the SLC Circuit.
- 3. Notification Appliance Circuits (NAC) shall be wired Class A (old style Z).
- 4. On Class A configurations a single ground fault or open circuit on the system Signaling Line Circuit shall not cause system malfunction, loss of operating power or the ability to report an alarm.
- 5. Alarm signals arriving at the FACP shall not be lost following a primary power failure (or outage) until the alarm signal is processed and recorded.
- D. The System Integrator shall interface the Fire Alarm System with the Security Monitoring and Control System Programmable Logic Controller to relay fire alarm event alert messages to the Touchscreen Workstations where provided.

The Systems Integrator shall interface the Fire Alarm System with the Energy Management Systems in order to control devices including but not limited to Stairwell Pressurization, Air Handlers, Zone Pressure Control and Smoke Exhaust Systems.

1.4 BASIC SYSTEM FUNCTIONAL OPERATION

- A. When a fire alarm condition is detected and reported by one of the system initiating devices, the following functions shall immediately occur:
 - 1. The System Alarm LED shall flash.
 - 2. A local piezo electric signal in the control panel shall sound.
 - 3. The fire alarm system event and its type, condition and location will be shown on the supervising station GUI.
 - 4. The 640-character LCD display of the Remote Annunciator shall indicate all information associated with the fire alarm condition, including the type of alarm point and its location within the protected premises.
 - 5. Printing and history storage equipment shall log the information associated each new fire alarm control panel condition, along with time and date of occurrence.
 - 6. All system output programs assigned via control-by-event interlock programming to be activated by the particular point in alarm shall be executed, and the associated system outputs (notification appliances and/or relays) shall be activated.
 - 7. The audio portion of the system shall sound the proper audio signal (consisting of tone, voice, or tone and voice) to the appropriate zones.
 - 8. See fire alarm matrix drawing for other specific actions based upon fire alarm system events.
- B. Actuation of smoke or heat detectors installed in elevator lobbies, shaft or elevator machine room shall activate signals to the elevator controls for elevator capture and recall. No other devices shall initiate elevator recall.

1.5 SUBMITTALS

A. General:

1. Four hard copies and two electronic copies in .pdf format of all submittals shall be submitted to the Architect/Engineer for review. Prior to submittal, the Systems Integrator must obtain review and

- approval by the Georgia State Fire Marshal. Comments of the Georgia State Fire Marshal must be addressed and incorporated into the submittal prior to submission to the Architect/Engineer.
- 2. All references to manufacturer's model numbers and other pertinent information herein is intended to establish minimum standards of performance, function and quality. Equivalent compatible UL-listed equipment from other manufacturers may be substituted for the specified equipment as long as the minimum standards are met.
- 3. All substitute equipment proposed as equal to the equipment specified herein, shall meet or exceed the following standards. For equipment other than that specified, the contractor shall supply proof that such substitute equipment equals or exceeds the features, functions, performance, and quality of the specified equipment.

B. Shop Drawings:

- 1. Sufficient information, clearly presented, shall be included to determine compliance with drawings and specifications.
- 2. Include manufacturer's name, model numbers, ratings, power requirements, equipment layout, device arrangement, complete wiring point-to-point diagrams, and conduit layouts.
- 3. Show annunciator layout, configurations, and terminations.
- 4. Provide complete set of equipment data sheets for all equipment.
- 5. Provide complete battery calculations to meet NFPA 72 2013 edition with Georgia amendments.
- 6. Provide complete Notification Appliance circuits calculations for voltage drop and wire sizing.
- 7. Provide a detailed sequence of operation narrative based upon the system features and the input/output matrix.
- 8. Provide device circuiting layout as an overlay to the fire alarm system floor plans. Layout to show the Signaling Line Circuits, Notification appliance circuits, all devices, all power supplies, all remote annunciators, supervising station GUI, main and remote FACPs, monitored or controlled devices and all ancillary system equipment. Show device addresses on the system circuiting drawing.
- 9. Provide a detailed riser diagram showing every system device and circuit.
- 10. Floor plan(s) to be drawn to 1/8" scale.

C. Manuals:

- 1. Submit simultaneously with the shop drawings, complete operating and maintenance manuals listing the manufacturer's name, including technical data sheets.
- 2. Wiring diagrams shall indicate internal wiring for each device and the interconnections between the items of equipment.
- 3. Provide a clear and concise description of operation that gives, in detail, the information required to properly operate the equipment and system.
- 4. Approvals will be based on complete submissions of manuals together with shop drawings.
- 5. Georgia State Fire Marshal (CSFM) Listing Sheet for all fire alarm components.

D. Substantial Complete Inspection and As Builts:

- 1. In addition to requirements elsewhere in these specifications provide:
 - a. Copy of fully executed NFPA 72 record of inspection and testing
 - b. Copy of fully executed NFPA 72 record of completion.
 - c. Record documents of all required submittals indicating changes or amendments to the design documents or initial submittals for the fire alarm system.

1.6 SOFTWARE MODIFICATIONS

- A. Provide the services of a factory trained and authorized technician to perform all system software modifications, upgrades or changes. Response time of the technician to the site shall not exceed 4 hours.
- B. Provide all hardware, software, programming tools and documentation necessary to modify the fire alarm system on site. Modification includes addition and deletion of devices, circuits, zones and changes to system operation and custom label changes for devices or zones. The system structure and software shall

place no limit on the type or extent of software modifications on-site. Modification of software shall not require power-down of the system or loss of system fire protection while modifications are being made. Provide copy of all site specific software.

C. Certifications:

1. Together with the shop drawing submittal, submit a certification from the major equipment manufacturer indicating that the proposed supervisor of the installation and the proposed performer of contract maintenance is an authorized representative of the manufacturer. Include names and addresses in the certification.

1.7 GUARANTY:

A. All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance. The full cost of maintenance, labor and materials required to correct any defect during this one year period shall be included in the submittal bid.

1.8 OBSOLESCENCE:

A. The manufacturer shall have the ability to provide parts and labor to expand the system specified, if so requested, for a period of five (5) years from the date of acceptance. The manufacturer shall have the ability to provide parts and labor for system maintenance for a period of fifteen (15) years from the date of acceptance.

1.9 APPLICABLE PUBLICATIONS:

- A. All equipment shall be UL listed, and manufactured to the following standards:
 - 1. Underwriter's Laboratories, Inc. (UL) Publications:

a. No. 38 Manually actuated signaling box for use with Fire Protective

Signaling Systems.

b. No. 218 A&B Smoke Detectors for Fire Protective Signaling Systems. Listing

218A is for chase mounted duct detectors.

2. National Electrical Manufacturer's Association (NEMA) Publications:

a. No. SB3 Interconnection Circuitry of Non-Coded Remote-Station

Protective Signaling Systems.

b. No. SB9 Smoke Detection

- National Fire Alarm Code (NFPA): 72 2013edition with Georgia amendments.
- 4. N.F.P.A. 101 2012 edition
- 5. International Fire Code, 2012 with Georgia Amendments 2014-2015
- 6. National Electrical Code (N.E.C.), NFPA 70, 2014 edition with Georgia Amendments 2014-2015
- 7. Division 23 and Division 26 Specifications
- B. All requirements of the Authority Having Jurisdiction (AHJ).

1.10 APPROVALS:

3.

- A. The system shall have proper listing and/or approval from the following nationally recognized agencies:
 - 1. UL, Underwriters Laboratories
- B. The Fire Alarm Control Panel and all transponders shall meet the modular listing requirements of Underwriters Laboratories. Each subassembly, including all printed circuits, shall include the appropriate UL modular label. This includes all printed circuit board assemblies, power supplies, and enclosure parts. Systems that do not include modular labels may require return to the factory for system upgrades, and are not acceptable.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIAL, GENERAL:

- A. All equipment and components shall be new, and the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a protected premises protective signaling (fire alarm) system. The authorized representative of the manufacturer of the major equipment, such as control panels, shall be responsible for the satisfactory installation of the complete system.
- B. All equipment and components shall be installed in strict compliance with each manufacturer's recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc. before beginning system installation. Refer to the riser/connection diagram for all specific system installation/termination/wiring data.
- C. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.
- D. All equipment in inmate accessible areas mounted below 12' AFF must be protected by abuse resistant cover. Covers must be the product of the Fire Alarm System manufacturer or approved by them for use with the fire alarm devices provided.

2.2 CONDUIT AND WIRE:

A. Conduit:

- 1. Conduit shall be in accordance with The National Electrical Code (NEC), local and state requirements.
- 2. All wiring shall be installed in conduit or raceway dedicated to the fire alarm system. Exposed conduit, boxes and box covers of the fire alarm system will be painted red. Conduit fill shall not exceed 40 percent of interior cross sectional area where three or more cables are contained within a single conduit.
- 3. Cable must be separated from any open conductors of Power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, as per NEC Article 760-29.
- 4. Wiring for 24 volt control, alarm notification, emergency communication and similar power-limited auxiliary functions may be run in the same conduit as initiating and signaling line circuits. All circuits shall be provided with transient suppression devices and the system shall be designed to permit simultaneous operation of all circuits without interference or loss of signals.
- 5. Conduit shall not enter the fire alarm control panel, or any other remotely mounted control panel equipment or backboxes, except where conduit entry is specified by the FACP manufacturer.
- 6. Conduit shall be 3/4" minimum.

B. Wire

- 1. All fire alarm system wiring may be reused provided the conductors pass continuity, short circuit and insulation resistance testing. Wiring not passing tests must be new.
- 2. Wiring shall be in accordance with local, state and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG for initiating device circuits and signaling line circuits, and 14 AWG for notification appliance circuits.
- 3. All wire and cable shall be listed and/or approved by a recognized testing agency for use with a protective signaling system.
- 4. Wire and cable not installed in conduit shall have a fire resistance rating suitable for the installation as indicated in NFPA 70 (e.g., FPLR).

- 5. The system shall permit the use of IDC and NAC wiring in the same conduit with the multiplex communication loop.
- 6. All field wiring shall be completely supervised. In the event of a primary power failure, disconnected standby battery, removal of any internal modules, or any open circuits in the field wiring; a trouble signal will be activated until the system and its associated field wiring are restored to normal condition.
- C. Terminal boxes, junction boxes and cabinets.
 - 1. All boxes and cabinets shall be UL listed for their intended purpose.
 - 2. Initiating circuits shall be arranged to serve like categories (manual, smoke, waterflow). Mixed category circuitry shall not be permitted except on signaling line circuits connected to intelligent reporting devices.
 - 3. The fire alarm control panel shall be connected to a separate dedicated branch circuit on emergency panel, maximum 20 amperes. This circuit shall be labeled at the main power distribution panel as FIRE ALARM. Fire alarm control panel primary power wiring shall be 12 AWG. The control panel cabinet shall be grounded securely to either a cold water pipe or grounding rod.

2.3 MAIN FIRE ALARM CONTROL PANEL OR NETWORK NODE:

- A. The main FACP Central Console (or Master Control Unit) shall contain a microprocessor based Central Processing Unit (CPU). The CPU shall communicate with and control the following types of equipment used to make up the system: intelligent addressable smoke and thermal (heat) detectors, addressable modules, control circuits, and notification appliance circuits, local and remote operator terminals, printers, annunciators, and other system controlled devices. THE MAIN FACP WILL HAVE BEEN INSTALLED IN FIRE COMMAND ROOM P176 IN THE DEKALB COUNTY JAIL PROJECT. This contractor must match the Main FACP with compatible product of the same manufacturer in the execution of this contract. This contractor must comply with the following operational characteristics in the programming of FACPs in this project. FACPs supplied and installed in this project must conform to operational requirements as describe herein.
- B. In conjunction with intelligent Loop Control Modules and Loop Expander Modules, the main FACP shall perform the following functions:
 - 1. Supervise and monitor all intelligent addressable detectors and monitor modules connected to the system for normal, trouble and alarm conditions.
 - Supervise all initiating signaling and notification circuits throughout the facility by way of connection to addressable monitor and control modules.
 - 3. Detect the activation of any initiating device and the location of the alarm condition. Operate all notification appliances and auxiliary devices as programmed. In the event of CPU failure, all SLC loop modules shall fallback to degrade mode. Such degrade mode shall treat the corresponding SLC loop control modules and associated detection devices as conventional two-wire operation. Any activation of a detector in this mode shall automatically activate associated Notification Appliance Circuits.
 - 4. Visually and audibly annunciate any trouble, supervisory, security or alarm condition on operator's terminals, panel display, and annunciators.
- C. When a fire alarm condition is detected and reported by one of the system initiating devices or appliances, the following functions shall immediately occur:
 - 1. The system alarm LED shall flash.
 - 2. A local piezo-electric audible device in the control panel shall sound a distinctive signal.
 - 3. The 640-character backlit LCD display shall indicate all information associated with the fire alarm condition, including the type of alarm point and its location within the protected premises.
 - 4. Printing and history storage equipment shall log and print the event information along with a time and date stamp.

- All system outputs assigned via preprogrammed equations for a particular point in alarm shall be
 executed, and the associated system outputs (alarm notification appliances and/or relays) shall be
 activated.
- D. When a trouble condition is detected and reported by one of the system initiating devices or appliances, the following functions shall immediately occur:
 - 1. The system trouble LED shall flash.
 - 2. A local piezo-electric audible device in the control panel shall sound a distinctive signal.
 - 3. The 640-character backlit LCD display shall indicate all information associated with the trouble condition, including the type of trouble point and its location within the protected premises.
 - 4. Printing and history storage equipment shall log and print the event information along with a time and date stamp.
 - 5. All system outputs assigned via preprogrammed equations for a particular point in trouble shall be executed, and the associated system outputs (trouble notification appliances and/or relays) shall be activated.
- E. When a supervisory condition is detected and reported by one of the system initiating devices or appliances, the following functions shall immediately occur:
 - 1. The system trouble LED shall flash.
 - 2. A local piezo-electric audible device in the control panel shall sound a distinctive signal.
 - 3. The 640-character backlit LCD display shall indicate all information associated with the supervisory condition, including the type of trouble point and its location within the protected premises.
 - 4. Printing and history storage equipment shall log and print the event information along with a time and date stamp.
 - 5. All system outputs assigned via preprogrammed equations for a particular point in trouble shall be executed, and the associated system outputs (notification appliances and/or relays) shall be activated.
- F. When a security alarm condition is detected and reported by one of the system initiating devices or appliances, the following functions shall immediately occur:
 - 1. The system security LED shall flash.
 - 2. A local piezo-electric audible device in the control panel shall sound a distinctive signal.
 - 3. The 640-character backlit LCD display shall indicate all information associated with the fire alarm condition, including the type of alarm point and its location within the protected premises.
 - 4. Printing and history storage equipment shall log and print the event information along with a time and date stamp.
 - 5. All system outputs assigned via preprogrammed equations for a particular point in alarm shall be executed, and the associated system outputs (alarm notification appliances and/or relays) shall be activated.
- G. When a pre-alarm condition is detected and reported by one of the system initiating devices or appliances, the following functions shall immediately occur:
 - 1. The system pre-alarm LED shall flash.
 - 2. A local piezo-electric audible device in the control panel shall sound a distinctive signal.
 - 3. The 640-character backlit LCD display shall indicate all information associated with the fire alarm condition, including the type of alarm point and its location within the protected premises.
 - 4. Printing and history storage equipment shall log and print the event information along with a time and date stamp.
 - 5. All system outputs assigned via preprogrammed equations for a particular point in alarm shall be executed, and the associated system outputs (alarm notification appliances and/or relays) shall be activated.
- H. Operator Control
 - 1. Acknowledge Switch:

- a. Activation of the control panel acknowledge switch in response to new alarms and/or troubles shall silence the local panel piezo electric signal and change the alarm and trouble LEDs from flashing mode to steady-ON mode. If multiple alarm or trouble conditions exist, depression of this switch shall advance the LCD display to the next alarm or trouble condition. In addition, the FACP shall support Block Acknowledge to allow multiple trouble conditions to be acknowledged with a single depression of this switch.
- Depression of the Acknowledge switch shall also silence all remote annunciator piezo sounders.

I. Signal Silence Switch:

1. Depression of the Signal Silence switch shall cause all programmed alarm notification appliances and relays to return to the normal condition. The selection of notification circuits and relays that are silence able by this switch shall be fully field-programmable within the confines of all applicable standards. The FACP software shall include silence inhibit and auto-silence timers.

J. Drill Switch:

1. Depression of the Drill switch shall activate all programmed notification appliance circuits. The drill function shall latch until the panel is silenced or reset.

K. System Reset Switch:

Depression of the System Reset switch shall cause all electronically latched initiating devices to return to their normal condition. Initiating devices shall re-report if active. Active notification appliance circuits shall not silence upon Reset. Systems that de-activate and subsequently re-activate notification appliance circuits shall not be considered equal. All programmed Control-By-Event equations shall be re-evaluated after the reset sequence is complete if the initiating condition has cleared. Non-latching trouble conditions shall not clear and re-report upon reset.

L. Lamp Test:

1. The Lamp Test switch shall activate all local system LEDs, light each segment of the liquid crystal display and display the panel software revision for service personal.

M. Scroll Display Keys:

1. There shall be Scroll Display keys for FIRE ALARM, SECURITY, SUPERVISORY, TROUBLE, and OTHER EVENTS. Depression of the Scroll Display key shall display the next event in the selected queue allowing the operator to view events by type.

N. Print Screen:

 Depression of the PRINT SCREEN switch shall send the information currently displayed on the 640-character display to the printer.

O. System Capacity and General Operation

- 1. The control panel shall be capable of expansion via up to 10 SLC modules. Each module shall support a maximum of 318 analog/addressable devices for a maximum system capacity of 3180 points. The system shall be capable of 3072 annunciation points per system regardless of the number of addressable devices.
- P. The Fire Alarm Control Panel shall include a full featured operator interface control and annunciation panel that shall include a backlit 640-character liquid crystal display, individual, color coded system status LEDs, and a QWERTY style alphanumeric keypad for the field programming and control of the fire alarm system. Said LCD shall also support graphic bit maps capable of displaying the company name and logo of either the owner or installing company.
- Q. All programming or editing of the existing program in the system shall be achieved without special equipment and without interrupting the alarm monitoring functions of the fire alarm control panel.
- R. The FACP shall be able to provide the following software and hardware features:

- 1. Pre-signal and Positive Alarm Sequence: The system shall provide means to cause alarm signals to only sound in specific areas with a delay of the alarm from 60 to up to 180 seconds after start of alarm processing. In addition, a Positive Alarm Sequence selection shall be available that allows a 15-second time period for acknowledging an alarm signal from a fire detection/initiating device. If the alarm is not acknowledged within 15 seconds, all local and remote outputs shall automatically activate immediately.
- 2. Smoke Detector Pre-alarm Indication at Control Panel: To obtain early warning of incipient or potential fire conditions, the system shall support a programmable option to determine system response to real-time detector sensing values above the programmed setting. Two levels of Pre-alarm indication shall be available at the control panel: alert and action.
- 3. Alert: It shall be possible to set individual smoke detectors for pre-programmed pre- alarm thresholds. If the individual threshold is reached, the pre-alarm condition shall be activated.
- 4. Action: If programmed for Action and the detector reaches a level exceeding the pre-programmed level, the control panel shall indicate an action condition. Sounder bases installed with either heat or smoke detectors shall automatically activate on action Pre-Alarm level, with general evacuation on Alarm level.
- 5. The system shall support a detector response time to meet world annunciation requirements of less than 3 seconds.
- Device Blink Control: Means shall be provided to turn off detector/module LED strobes for special
 areas.
- 7. NFPA 72 Smoke Detector Sensitivity Test: The system shall provide an automatic smoke detector test function that meet the requirements of NFPA 72.
- 8. Programmable Trouble Reminder: The system shall provide means to automatically initiate a reminder that troubles exist in the system. The reminder will appear on the system display and (if enabled) will sound a piezo alarm.
- 9. On-line or Off-line programming: The system shall provide means to allow panel programming either through an off-line software utility program away from the panel or while connected and online. The system shall also support upload and download of programmed database and panel executive system program to a Personal Computer/laptop.
- 10. History Events: The panel shall maintain a history file of the last 4000 events, each with a time and date stamp. History events shall include all alarms, troubles, operator actions, and programming entries. The control panels shall also maintain a 1000 event Alarm History buffer, which consists of the 1000 most recent alarm events from the 4000 event history file.
- 11. Smoke Control Modes: The system shall provide means to perform FSCS mode Smoke Control to meet NFPA-92A and 90B and HVAC mode to meet NFPA 90A.
- 12. The system shall provide means for all SLC devices on any SLC loop to be auto programmed into the system by specific address. The system shall recognize specific device type ID's and associate that ID with the corresponding address of the device.
- 13. Drill: The system shall support means to activate all silenceable fire output circuits in the event of a practice evacuation or "drill". If enabled for local control, the front panel switch shall be held for a minimum of 2 seconds prior to activating the drill function.
- 14. Passwords and Users: The system shall support two password levels, master and user. Up to 9 user passwords shall be available, each of which may be assigned access to the programming change menus, the alter status menus, or both. Only the master password shall allow access to password change screens.
- 15. Block Acknowledge: The system shall support a block Acknowledge for Trouble Conditions.
- 16. Sensitivity Adjust: The system shall provide Automatic Detector Sensitivity Adjust based on Occupancy schedules including a Holiday list of up to 15 days.
- 17. Environmental Drift Control: The system shall provide means for setting Environmental Drift Compensation by device. When a detector accumulates dust in the chamber and reaches an unacceptable level but yet still below the allowed limit, the control panel shall indicate a maintenance alert warning. When the detector accumulates dust in the chamber above the allowed limit, the control panel shall indicate a maintenance urgent warning.

18. Custom Action Messages: The system shall provide means to enter up to 100 custom action messages of up to 160 characters each. It shall be possible to assign any of the 100 messages to any point.

- 19. Print Functions: The system shall provide means to obtain a variety of reports listing all event, alarm, trouble, supervisory, or security history. Additional reports shall be available for point activation for the last Walk Test performed, detector maintenance report containing the detector maintenance status of each installed addressable detector, all network parameters, all panel settings including broad cast time, event ordering, and block acknowledge, panel timer values for Auto Silence, Silence Inhibit, AC Fail Delay time and if enabled, Proprietary Reminder, and Remote Reminder timers, supervision settings for power supply and printers, all programmed logic equations, all custom action messages, all non-fire and output activations (if pre-programmed for logging) all active points filtered by alarms only, troubles only, supervisory alarms, pre alarms, disabled points and activated points, all installed points filtered by SLC points, logic zones, annunciators, releasing zones, special zones, and trouble zones.
- 20. Local Mode: If communication is lost to the central processor the system shall provide added survivability through the intelligent loop control modules. Inputs from devices connected to the SLC and loop control modules shall activate outputs on the same loop when the inputs and outputs have been set with point programming to participate in local mode or when the type codes are of the same type: that is, an input with a fire alarm type code shall activate an output with a fire alarm type code.
- 21. Resound based on type for security or supervisory: The system shall indicate a Security alarm when a monitor module point programmed with a security Type Code activates. If silenced alarms exist, a Security alarm will resound the panel sounder. The system shall indicate a Supervisory alarm when a monitor module point programmed with a supervisory Type Code activates. If there are silenced alarms, a Supervisory alarm will Resound the panel sounder.
- 22. Read status preview enabled and disabled points: Prior to re-enabling points, the system shall inform the user that a disabled device is in the alarm state. This shall provide notice that the device must be reset before the device is enabled thereby avoiding activation of the notification circuits.
- 23. Custom Graphics: When fitted with an LCD display, the panel shall permit uploading of a custom bit-mapped graphic to the display screen.
- 24. Multi-Detector and Cooperating Detectors: The system shall provide means to link one detector to up to two detectors at other addresses on the same loop in cooperative multi-detector sensing. There shall be no requirement for sequential addresses on the detectors and the alarm event shall be a result or product of all cooperating detectors chamber readings.
- 25. Tracking/Latching Duct (ion and photo): The system shall support both tracking and latching duct detectors either ion or photo types.
- 26. ACTIVE EVENT: The system shall provide a Type ID called FIRE CONTROL for purposes of air-handling shutdown, which shall be intended to override normal operating automatic functions. Activation of a FIRE CONTROL point shall cause the control panel to (1) initiate the monitor module Control-by-Event, (2) send a message to the panel display, history buffer, installed printer and annunciators, (3) shall not light an indicator at the control panel, (4) Shall display ACTIVE on the LCD as well a display a FIRE CONTROL Type Code and other information specific to the device. The system will communicate with the HVAC controls as indicated in the drawings.
- 27. NON-FIRE Alarm Module Reporting: A point with a type ID of NON-FIRE shall be available for use for energy management or other non-fire situations. NON-FIRE point operation shall not affect control panel operation nor shall it display a message at the panel LDC. Activation of a NON-FIRE point shall activate control by event logic but shall not cause any indication on the control panel.
- 28. One-Man Walk Test: The system shall provide both a basic and advanced walk test for testing the entire fire alarm system. The basic walk test shall allow a single operator to run audible tests on the panel. All logic equation automation shall be suspended during the test and while annunciators can be enabled for the test, all shall default to the disabled state. During an advanced walk test, field-supplied output point programming will react to input stimuli such as CBE and logic equations. When points are activated in advanced test mode, each initiating event shall latch the input. The advanced test shall be audible and shall be used for pull station verification, magnet activated tests on input devices, input and output device and wiring operation/verification.

- 29. Control by Event Functions: CBE software functions shall provide means to program a variety of output responses based on various initiating events. The control panel shall operate CBE through lists of zones. A zone shall become listed when it is added to a point's zone map through point programming. Each input point such as detector, monitor module or panel circuit module shall support listing of up to 10 zones into its programmed zone map.
- 30. Permitted zone types shall be general zone, releasing zone and special zone.
- 31. Each output point (control module, panel circuit module) can support a list of up to 10 zones including general zone, logic zone, releasing zone and trouble zone. It shall be possible for output points to be assigned to list general alarm. Non-Alarm or Supervisory points shall not activate the general alarm zone.
- 32. 1000 General Zones: The system shall support up to 1000 general purpose software zones for linking inputs to outputs. When an input device activates, any general zone programmed into that device's zone map will be active and any output device that has an active general zone in its map will be active. It shall also be possible to use general zone as arguments in logic equations.
- 33. 1000 Logic Equations: The system shall support up to 1000 logic equations for AND, OR, NOT, ONLY1, ANYX, XZONE or RANGE operators that allow conditional I/O linking. When any logic equation becomes true, all output points mapped to the logic zone shall activate.
- 34. 10 trouble equations per device: The system shall provide support for up to 10 trouble equations for each device, which shall permit programming parameters to be altered, based on specific fault conditions. If the trouble equation becomes true, all output points mapped to the trouble zone shall activate
- 35. Control-By-Time: A time based logic function shall be available to delay an action for a specific period of time based upon a logic input with tracking feature. A latched version shall also be available. Another version of this shall permit activation on specific days of the week or year with ability to set and restore based on a 24 hour time schedule on any day of the week or year.
- 36. Multiple agent releasing zones: The system shall support up to 10 releasing zones to protect against 10 independent hazards. Releasing zones shall provide up to three cross-zone and four abort options to satisfy any local jurisdiction requirements.
- 37. Alarm Verification, by device, with timer and tally: The system shall provide a user-defined global software timer function that can be set for a specific detector or indicating panel module input. The timer function shall delay an alarm signal for a user-specified time period and the control panel shall ignore the alarm verification timer if another alarm is detected during the verification period. It shall also be possible to set a maximum verification count between 0 and 20 with the "0" setting producing no alarm verification. When the counter exceeds the threshold value entered, a trouble shall be generated to the panel.
- 38. Separate alarm annunciation of Carbon Monoxide detection. The system will comply with UL 2075 standard for system-connected life safety carbon monoxide monitoring.

S. Central Processing Unit

- 1. The Central Processing Unit shall communicate with, monitor, and control all other modules within the control panel. Removal, disconnection or failure of any control panel module shall be detected and reported to the system display by the Central Processing Unit.
- 2. The Central Processing Unit shall contain and execute all control-by-event (including Boolean functions including but not limited to AND, OR, NOT, ANYX, and CROSSZONE) programs for specific action to be taken if an alarm condition is detected by the system. Such control-by-event programs shall be held in non-volatile programmable memory, and shall not be lost with system primary and secondary power failure.
- 3. The Central Processing Unit shall also provide a real-time clock for time annotation, to the second, of all system events. The time-of-day and date shall not be lost if system primary and secondary power supplies fail.
- 4. The CPU shall be capable of being programmed on site without requiring the use of any external programming equipment. Systems that require the use of external programmers or change of EPROMs are not acceptable.

- T. Consistent with UL standards, the CPU and associated equipment are to be protected so that voltage surges or line transients will not affect them.
- U. Each peripheral device connected to the CPU shall be continuously scanned for proper operation. Data transmissions between the CPU and peripheral devices shall be reliable and error free. The transmission scheme used shall employ dual transmission or other equivalent error checking techniques.
- V. The CPU shall provide an EIA-232 interface between the fire alarm control panel and the UL Listed Electronic Data Processing (EDP) peripherals.
- W. The CPU shall provide two EIA-485 ports for the serial connection to annunciation and control subsystem components.
- X. The EIA-232 serial output circuit shall be optically isolated to assure protection from earth ground.
- Y. The CPU shall provide one high-speed serial connection for support of network communication modules.
- Z. The CPU shall provide double pole relays for FIRE ALARM, SYSTEM TROUBLE, SUPERVISORY, and SECURITY. The SUPERVISORY and SECURITY relays shall provide selection for additional FIRE ALARM contacts.

2.4 DISPLAY

- A. The system display shall provide all the controls and indicators used by the system operator and may also be used to program all system operational parameters.
- B. The display assembly shall contain, and display as required, custom alphanumeric labels for all intelligent detectors, addressable modules, and software zones.
- C. The system display shall provide a 640-character backlit alphanumeric Liquid Crystal Display (LCD). It shall also provide ten Light-Emitting-Diodes (LEDs) that indicate the status of the following system parameters: AC POWER, FIRE ALARM, PREALARM, SECURITY, SUPERVISORY, SYSTEM TROUBLE, OTHER EVENT, SIGNALS SILENCED, POINT DISABLED, and CPU FAILURE.
- D. The system display shall provide a QWERTY style keypad with control capability to command all system functions, entry of any alphabetic or numeric information, and field programming. Two different password levels with up to ten (one Master and nine User) passwords shall be accessible through the display interface assembly to prevent unauthorized system control or programming.
- E. The system display shall include the following operator control switches: ACKNOWLEDGE, SIGNAL SILENCE, RESET, DRILL, and LAMP TEST. Additionally, the display interface shall allow scrolling of events by event type including, FIRE ALARM, SECURITY, SUPERVISORY, TROUBLE, and OTHER EVENTS. A PRINT SCREEN button shall be provided for printing the event currently displayed on the 640-character LCD.

2.5 LOOP (SIGNALING LINE CIRCUIT) CONTROL MODULE:

- A. The Loop Control Module shall monitor and control a minimum of 318 intelligent addressable devices. This includes 159 intelligent detectors (Ionization, Photoelectric, or Thermal) and 159 monitor or control modules.
- B. The Loop Control Module shall contain its own microprocessor and shall be capable of operating in a local/degrade mode (any addressable device input shall be capable of activating any or all addressable device outputs) in the unlikely event of a failure in the main CPU.

C. The Loop Control Module shall provide power and communicate with all intelligent addressable detectors and modules on a single pair of wires. This SLC Loop shall be capable of operating as a NFPA Class X circuit.

- D. The SLC interface board shall be able to drive an NFPA Class X twisted unshielded circuit up to 12,500 feet in length. The SLC Interface shall also be capable of driving an NFPA Style 7, no twist, no shield circuit for limited distances determined by the manufacturer. In addition, SLC wiring shall meet the listing requirements for it to exit the building or structure.
- E. The SLC interface board shall receive analog or digital information from all intelligent detectors and shall process this information to determine whether normal, alarm, or trouble conditions exist for that particular device. Each SLC Loop shall be isolated and equipped to annunciate an Earth Fault condition. The SLC interface board software shall include software to automatically maintain the detector's desired sensitivity level by adjusting for the effects of environmental factors, including the accumulation of dust in each detector. The analog information may also be used for automatic detector testing and the automatic determination of detector maintenance requirements.

2.6 ENCLOSURES:

- A. The control panel shall be housed in a UL-listed cabinet suitable for surface or semi-flush mounting. The cabinet and front shall be corrosion protected, given a rust-resistant prime coat, and manufacturer's standard finish.
- B. The back box and door shall be constructed of 0.060 steel with provisions for electrical conduit connections into the sides and top.
- C. The door shall provide a key lock and include a transparent opening for viewing all indicators. For convenience, the door shall have the ability to be hinged on either the right or left-hand side.
- D. The control unit shall be modular in structure for ease of installation, maintenance, and future expansion.

2.7 POWER SUPPLY:

- A. The Addressable Main Power Supply shall operate on 120/240 VAC, 50/60 Hz, and shall provide all necessary power for the FACP.
- B. The Addressable Main Power Supply shall provide the required power to the CPU using a switching 24 VDC regulator and shall incorporate a battery charger for 24 hours of standby power using dual-rate charging techniques for fast battery recharge.
- C. The Addressable Main Power Supply shall provide a battery charger for 24 hours of standby using dual-rate charging techniques for fast battery recharge. The power supply shall be capable of charging batteries ranging in capacity from 25-200 amp-hours within a 48-hour period.
- D. The Addressable Main Power Supply shall provide a very low frequency sweep earth detect circuit, capable of detecting earth faults.
- E. The Addressable Main Power Supply shall be power-limited per UL requirements.

2.8 SYSTEM CIRCUIT SUPERVISION

A. The FACP shall supervise all circuits to intelligent devices, transponders, annunciators and peripheral equipment and annunciate loss of communication with these devices. The CPU shall continuously scan above devices for proper system operation and upon loss of response from a device shall sound an audible trouble, indicate which device or devices are not responding and print the information in the history buffer and on the printer.

- B. Transponders that lose communication with the CPU shall sound an audible trouble and light an LED indicating loss of communications.
- C. Sprinkler system valves, standpipe control valves, PIV, and main gate valves shall be supervised for offnormal position.
- D. All speaker and emergency phone circuits shall be supervised for opens and shorts. Each transponder speaker and emergency phone circuit shall have an individual ON/OFF indication (green LED).

2.9 FIELD WIRING TERMINAL BLOCKS

A. All wiring terminal blocks shall be the plug-in/removable type and shall be capable of terminating up to 12 AWG wire. Terminal blocks that are permanently fixed to the PC board are not acceptable.

2.10 CONTROLS WITH ASSOCIATED LED INDICATORS:

- A. Emergency Two-Way Telephone Control Switches/Indicators
 - 1. The emergency telephone circuit control panel shall include visual indication of active and trouble status for each telephone circuit in the system as required.
 - 2. The telephone circuit control panel shall include switches to manually activate or deactivate each telephone circuit in the system.

B. Remote Transmissions:

- 1. Provide local energy or polarity reversal or trip circuits as required.
- 2. The system shall be capable of operating a polarity reversal or local energy or fire alarm transmitter for automatically transmitting fire information to the fire department.
- 3. Provide capability and equipment for transmission of zone alarm and trouble signals to remote operator's terminals, system printers and annunciators.
- 4. Transmitters shall be compatible with the systems and equipment they are connected to such as timing, operation and other required features.

2.11 FIELD PROGRAMMING

A. The system shall be programmable, configurable and expandable in the field without the need for special tools, laptop computers, or other electronic interface equipment. There shall be no firmware changes required to field modify the system time, point information, equations, or annunciator programming/information.

2.12 IT SHALL BE POSSIBLE TO PROGRAM THROUGH THE STANDARD FACP KEYBOARD ALL SYSTEM FUNCTIONS.

- A. All field defined programs shall be stored in non-volatile memory.
- B. Two levels of password protection shall be provided in addition to a key-lock cabinet. One level shall be used for status level changes such as point/zone disable or manual on/off commands (Building Manager). A second (higher-level) shall be used for actual change of the life safety program (installer). These passwords shall be five (5) digits at a minimum. Upon entry of an invalid password for the third time within a one minute time period an encrypted number shall be displayed. This number can be used as a reference for determining a forgotten password.
- C. The system programming shall be "backed" up via an upload/download program, and stored on compatible removable media. A system back-up disk shall be completed and given in duplicate to the building owner and/or operator upon completion of the final inspection. The program that performs this function shall be "non-proprietary", in that, it shall be possible to forward it to the building owner/operator upon his or her request.

D. The installer's field programming and hardware shall be functionally tested on a computer against known parameters/norms which are established by the FACP manufacturer. A software program shall test Input-to-Output correlations, device Type ID associations, point associations, time equations, etc. This test shall be performed on an IBM-compatible PC with a verification software package. A report shall be generated of the test results and two copies turned in to the engineer(s) on record.

2.13 SPECIFIC SYSTEM OPERATIONS

- A. Smoke Detector Sensitivity Adjust: Means shall be provided for adjusting the sensitivity of any or all analog intelligent smoke detectors in the system from the system keypad or from the keyboard of the video terminal. Sensitivity range shall be within the allowed UL window.
- B. Alarm Verification: Each of the Intelligent Addressable Smoke Detectors in the system may be independently selected and enabled to be an alarm verified detector. The alarm verification function shall be programmable from 5 to 50 seconds and each detector shall be able to be selected for verification during the field programming of the system or any time after system turn-on. Alarm verification shall not require any additional hardware to be added to the control panel. The FACP shall keep a count of the number of times that each detector has entered the verification cycle. These counters may be displayed and reset by the proper operator commands.

2.14 SYSTEM POINT OPERATIONS:

- A. Any addressable device in the system shall have the capability to be enabled or disabled through the system keypad or video terminal.
- B. System output points shall be capable of being turned on or off from the system keypad or the video terminal.
- C. Point Read: The system shall be able to display the following point status diagnostic functions without the need for peripheral equipment. Each point shall be annunciated for the parameters listed:
 - 1. Device Status.
 - 2. Device Type.
 - 3. Custom Device Label.
 - 4. Software Zone Label.
 - 5. Device Zone Assignments.
 - 6. Analog Detector Sensitivity.
 - 7. All Program Parameters.
- D. System Status Reports: Upon command from an operator of the system, a status report will be generated and printed, listing all system statuses:
- E. System History Recording and Reporting: The fire alarm control panel shall contain a history buffer that will be capable of storing up to 4000 system events. Each of these events will be stored, with time and date stamp, until an operator requests that the contents be either displayed or printed. The contents of the history buffer may be manually reviewed; one event at a time and the actual number of activations may also be displayed and or printed. History events shall include all alarms, troubles, operator actions, and programming entries.
- F. The history buffer shall use non-volatile memory. Systems which use volatile memory for history storage are not acceptable.
- G. Automatic Detector Maintenance Alert: The fire alarm control panel shall automatically interrogate each intelligent system detector and shall analyze the detector responses over a period of time.
 - If any intelligent detector in the system responds with a reading that is below or above normal limits, then the system will enter the trouble mode, and the particular Intelligent Detector will be annunciated on the system display, and printed on the optional system printer. This feature shall in

no way inhibit the receipt of alarm conditions in the system, nor shall it require any special hardware, special tools or computer expertise to perform.

H. The system shall include the ability (programmable) to indicate a "pre-alarm" condition. This will be used to alert maintenance personal when a detector is at 80% of its alarm threshold in a 60 second period.

2.15 SYSTEM COMPONENTS:

2.16 ADDRESSABLE DEVICES - GENERAL

- A. Addressable devices shall provide an address-setting means using rotary decimal switches.
- B. Addressable devices shall use simple to install and maintain decade (numbered 0 to 9) type address switches. Devices which use a binary address or special tools for setting the device address, such as a dip switch are not an allowable substitute.
- C. Detectors shall be analog and Addressable, and shall connect to the fire alarm control panel's Signaling Line Circuits.
- D. Addressable smoke and thermal detectors shall provide dual (2) status LEDs. Both LEDs shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control panel, and both LEDs shall be placed into steady illumination by the control panel, indicating that an alarm condition has been detected. If required, the flashing mode operation of the detector LEDs can be programmed off via the fire control panel program.
- E. The fire alarm control panel shall permit detector sensitivity adjustment through field programming of the system. Sensitivity can be automatically adjusted by the panel on a time-of-day basis.
- F. Using software in the FACP, detectors shall automatically compensate for dust accumulation and other slow environmental changes that may affect their performance. The detectors shall be listed by UL as meeting the calibrated sensitivity test requirements of NFPA Standard 72, Chapter 7.
- G. The detectors shall be ceiling-mount and shall include a separate twist-lock base which includes a tamper proof feature.
- H. The following bases and auxiliary functions shall be available:
 - 1. Sounder base rated at 85 DBA minimum.
 - 2. Form-C Relay base rated 30VDC, 2.0A.
 - 3. Isolator base.
- I. The detectors shall provide a test means whereby they will simulate an alarm condition and report that condition to the control panel. Such a test may be initiated at the detector itself (by activating a magnetic switch) or initiated remotely on command from the control panel.
- J. Detectors shall also store an internal identifying type code that the control panel shall use to identify the type of device (example: ION, PHOTO, THERMAL).

2.17 SERIALLY CONNECTED ANNUNCIATOR REQUIREMENTS

A. The annunciator shall communicate to the fire alarm control panel via an EIA 485 (multi- drop) two-wire communications loop. The system shall support two 6,000 ft. EIA-485 wire runs. Up to 32 annunciators, each configured up to 96 points, may be connected to the connection, for a system capacity of 3,072 points of annunciation.

- B. An EIA-485 repeater shall be available to extend the EIA-485 wire distance in 3,000 ft. increments. An optional version shall allow the EIA-485 circuit to be transmitted over Fiber optics. The repeater shall be UL approved.
- C. Each annunciator shall provide up to 96 alarm and 97 trouble indications using a long-life programmable color LED's. Up to 96 control switches shall also be available for the control of Fire Alarm Control Panel functions. The annunciator will also have an "ON-LINE" LED, local piezo sounder, local acknowledge and lamp test switch, and custom zone/function identification labels.
- D. The annunciator may be field configured to operate as a "Fan Control Annunciator". When configured as "Fan Control," the annunciator may be used to manually control fan or damper operation and can be set to override automatic commands to all fans/dampers programmed to the annunciator.
- E. Annunciator switches may be programmed for System control such as, Global Acknowledge, Global Signal Silence, Global System Reset, and on/off control of any control point in the system.
- F. An optional module shall be available to utilize annunciator points to drive EIA-485 driven relays. This shall extend the system point capacity by 3,072 remote contacts.
- G. The LED annunciator shall offer an interface to a graphic style annunciator and provide each of the features listed above.

2.18 FIXED EMERGENCY TELEPHONE HANDSET

- A. The telephone cabinet shall be painted red and clearly labeled emergency telephone. The cabinets shall be located where shown on drawings.
- B. The handset cradle shall have a switch connection such that lifting the handset off of the cradle shall send a signal to the fire command center which shall audibly and visually indicate its on-line (off-hook) condition.
- C. The two-way emergency telephone system shall support a maximum of seven (7) handsets on line (off hook) without degradation of the signal.
- 2.19 GRAHICS USER INTERFACE PC Proprietary Supervising Station Workstation Equipment

A. Hardware

- 1. The system shall include a Touchscreen Graphical User Interface (GUI) in Central Control.
- 2. The system shall operate on CPU and monitor provided by and a product of the fire alarm system manufacturer. The CPU features, memory and operating system will be as required by the manufacturer to operate the Touchscreen GUI. The CPU will be provided with keyboard and mouse operation as well as the Touchscreen GUI.
- 3. The workstation shall be supplied with a 19" flat screen LCD monitor.
- 4. The workstation shall be supplied with a small form factor laser printer to be located in Central Control.

B. Touchscreen GUI features

- 1. The system will interface and report the individually monitored system's status via a user-friendly touchscreen Graphical User Interface (GUI) based software workstation.
- 2. The GUI based software must be capable of graphically representing each facility being monitored with floor plans and icons depicting the actual locations of the various systems; and / or sensors' locations as well as view the system events in text mode.
- 3. The software shall use a 1024 pixels X 768 pixels GUI display capable of showing a large primary floor plan display, a key map representative of a larger view of the primary display and its relationship to the facility being monitored, the current operator, number of fire, supervisory, prealarms, troubles, and security events within the network as well as outstanding events and acknowledged events.

- 4. The software shall have the capacity of at least 1,000 screens / floor plans or as dictated by hard drive space and installed VIDEO and RAM memory for efficient operation.
- 5. The workstation shall have the ability to support graphic printing of all data including graphical floor plans, system activity, history, and guidance text. A Windows® compatible printer shall be supported for the graphics and report printer options.
- 6. The workstation software shall permit automatic navigation to the screen containing an icon that represents the system or sensor in the event of an off- normal condition.
- 7. The system/sensor icon shall indicate the type of off-normal condition, flash, and change to the color associated with the off-normal condition (e.g., RED for ALARM and YELLOW for TROUBLE).
- 8. The software shall allow the attachment of text (TXT) files, sound (WAV) files, image (BMP) files, and video (AVI) files to each system or sensor icon allowing additional information to be provided to the system operator for responding to the off-normal condition. The software must have the ability for an attachment for each major event type per device.
- 9. The software shall allow the importation of externally developed floor plans in Windows Metafile (WMF), JPEG (JPG), Graphics Interchange Format (GIF) and Bitmap (BMP) format.
- 10. The software shall provide automatic navigation to the screen containing the icon of any system or sensor when an event is initially annunciated. In addition, operator navigation to screens containing outstanding events shall be accomplished by "clicking on" the event from either the acknowledged or unacknowledged event.
- 11. History Manager. The software shall contain a History Manager, which shall record all system events with a time and date stamp as well as the current system operator's name.
 - a. The system shall provide the ability to store all off-normal events experienced by the various sub-systems that are monitored by the system.
 - b. All events shall be recorded with a time and date stamp and the system operator shall be provided with the ability to log a pre-defined response or a custom comment for each off-normal event and have that comment stored in the history file with the time, date, and operator name.
 - c. Provide the ability to conduct searches and generate subsequent reports, based on all events for a single system / device address, a specific node, a specific type of off-normal condition and date range (mm/dd/yy to mm/dd/yy) or combinations of these search parameters. The number of entries in the history file that match the determined search criteria will be displayed.
 - d. The History Manager shall signal a need to back-up the history file at 100,000 events and then remind the operator at intervals of 100 events thereafter. The History Manager will have a capacity of 500,000 events.
 - e. It shall be possible to pre-select data fields for reporting and then saving the report as a template. It shall also be possible to schedule the pre- defined report to print at a designated time.
 - f. The History Manager shall provide the operator the ability to select the number of days to back-up history.
- 12. Alarm Monitoring. The system shall provide for continuous monitoring of all off- normal conditions regardless of the current activity displayed on the screen.
 - a. If an operator is viewing the history of a sub-system and an alarm condition should occur, the system shall automatically navigate to the graphic screen showing the area where the offnormal event is occurring.
 - b. The system shall prioritize all off-normal events as defined by UL-S527 into the following categories: fire alarms, troubles, supervisory alarms, pre- alarms, disables and security alarms.
 - c. The system shall display a running count of all events by type in an alarm summary window. The alarm summary window shall include at least five counters, defaulted to Alarm, Pre-Alarm, Trouble, Disable, Supervisory and Security events.
 - d. The system shall show a running list of all unacknowledged events and acknowledged events and allow the system operator to acknowledge an event by "double-clicking" on that event in

- the Unacknowledged Events box. The Unacknowledged and Acknowledged Events boxes shall contain an abbreviated description of the off-normal condition.
- e. The details of the condition may be viewed by selecting event in the unacknowledged events box.
- f. The system shall allow the attachment of user-definable text files, image files, video files, and sound files to each device / system monitored (for every event state) in order to facilitate the operators and response personnel's response to the off-normal condition.
- g. The system shall record all events to the system's hard drive. Up to 500,000 events may be stored.

13. Reports & Logs:

- a. The system shall provide for the ability to generate reports based on system history.
- b. The system shall allow the system operator to enter custom comments up to 255 characters for each event and have those comments recorded in the system's history file.

2.20 Printer

- A. The printer shall provide hard-copy printout of all changes in status of the system and shall time-stamp such printouts with the current time-of-day and date.
- B. The printer shall be standard monochrome laser printer.
- C. The printer shall communicate with the control unit using an interface complying with Electrical Industries Association standard EIA-232D. Power to the printer shall be 120 VAC @ 60 Hz.
- 2.21 Addressable Manual Fire Alarm Box (manual pull station)
 - A. Addressable manual fire alarm boxes shall, on command from the control unit, send data to the control unit representing the state of the manual switch and the addressable communication module status. They shall use a key operated test- reset lock, and shall be designed so that after actual emergency operation, they cannot be restored to normal use except by the use of a key.
 - B. All operated stations shall have a positive, visual indication of operation and utilize a key type reset.
 - C. Manual fire alarm boxes shall be constructed of Lexan with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in raised letters, 1.75 inches (44 mm) or large.
 - Manual fire alarm boxes in inmate accessible area will have a locked access cover. Provide six keys for each locked access cover.
- 2.22 Intelligent Photoelectric Smoke Detector
 - A. The detectors shall use the photoelectric (light-scattering) principal to measure smoke density and shall, on command from the control panel, send data to the panel representing the analog level of smoke density.
- 2.23 Intelligent Thermal Detectors
 - A. Thermal detectors shall be intelligent addressable devices rated at 135 degrees Fahrenheit (58 degrees Celsius) and have a rate-of-rise element rated at 15 degrees F (9.4 degrees C) per minute. It shall connect via two wires to the fire alarm control unit signaling line circuit.
- 2.24 Intelligent Duct Smoke Detector
 - A. The smoke detector housing shall contain an intelligent photoelectric detector that provides continuous analog monitoring and alarm verification from the control unit.
 - B. When sufficient smoke is sensed, an alarm signal is initiated at the control unit, and appropriate action taken to change over air handling systems to help prevent the rapid distribution of toxic smoke and fire gases throughout the areas served by the duct system.

C. Duct type smoke detectors shall be provided and installed for all air handling units and as shown on the drawings. Coordinate with Division 23 exact location of these devices. Provide at each duct type smoke detector remote test module. Where the air handler is located in mechanical spaces inaccessible to inmates locate the test module as close to the unit as possible within normal standing reach of staff. Where the air handler is located in inmate accessible areas or above ceiling spaces in inmate accessible areas locate the test module inside or at the corresponding unit's workstation area.

2.25 Addressable Dry Contact Monitor Module

- A. Addressable monitor modules shall be provided to connect one supervised IDC zone of conventional alarm initiating devices (any N.O. dry contact device) to one of the fire alarm control unit SLCs.
- B. The module shall be capable of connecting to an IDC zone wired Class A or Class B (Style D or Style B operation). An LED shall be provided that shall flash under normal conditions, indicating that the monitor module is operational and in regular communication with the control unit and shall remain illuminated when the IDC is activated.
- C. Provide Contact Monitor Modules at food services fire suppression systems, fire protection flow switches, fire protection tamper switches, fire protection post indicating valves and all other devices which require action or reporting of the fire alarm system in response to specific input.

2.26 Addressable Control Module

- A. Addressable control modules shall be provided to supervise and control the operation of one conventional notification appliance circuit (NAC) of compatible, 24 VDC powered, polarized audio/visual notification appliances.
- B. The module shall be capable of connecting to an NAC wired Class A or Class B (Style Z or Style Y operation) and supply up to 1 amp of inductive or 2 amps of resistive 24 VDC power to the connected A/V signals.
- C. Audio/visual power input to the module, for distribution to the NAC, shall be provided by a separate supervised power circuit from the main fire alarm control unit or from a supervised UL listed remote power supply.
- D. The control module shall be suitable for pilot duty applications and rated for a minimum of 0.6 amps at 30 VDC.
- E. An LED, integral to the module, shall flash under normal conditions, indicating that the module is operational and in regular communication with the control unit and shall remain illuminated when the NAC is activated.
- F. Provide Contact Control Modules at HVAC devices, control equipment, fire suppression systems, utility shunts, locking and access control devices and other devices requiring output from the Fire Alarm system.

2.27 Addressable Relay Module

- A. Addressable Relay Modules shall be available for HVAC control and other building equipment control functions. The relay shall have dual Form-C (DPDT) contacts, rated for a minimum of 2.0 Amps resistive or 1.0 Amps inductive. The relay coil shall be magnetically latched to reduce wiring connection requirements, and to insure that 100% of all auxiliary relay or NACs may be energized at the same time on the same pair of wires.
- B. An LED, integral to the module, shall flash under normal conditions, indicating that the module is operational and in regular communication with the control unit and shall remain illuminated when the relay is activated.

2.28 Isolator Module

- A. Isolator modules shall be provided to automatically isolate wire-to-wire short circuits on an SLC Style 6 or 7 segment or Style 4 branch. The isolator module shall limit the number of modules or detectors that may be rendered inoperative by a short circuit fault on the SLC loop segment or branch.
- B. An isolator module shall be provided for each floor and at beginning and end of each protected zone of the building. No more than 25 addressable devices shall be connected to a protected SLC segment.
- C. If a wire-to-wire short occurs, the isolator module shall automatically open-circuit (disconnect) the SLC segment. When the short circuit condition is corrected, the isolator module shall automatically reconnect the isolated segment.
- D. The isolator module shall not require address-setting, and its operations shall be totally automatic. It shall not be necessary to replace or reset an isolator module after its normal operation. The isolator module shall provide a single LED that shall flash to indicate that the isolator is operational and shall illuminate steadily to indicate that a short circuit condition has been detected and isolated. The isolation module must be mounted in plain view at the installation locations indicated.
- E. Alternatively, the isolator module may be addressable if its activation and location, as well as all devices isolated by its activation, are reported to the FACP, any Remote Annunciator Panels and the Touchscreen GUI.

2.29 Transponder Modules

- A. Transponder modules shall serve as the interface between the system control unit and:
 - 1. Conventional 2-wire and contact-type four-wire smoke detectors
 - 2. Other non-addressable initiating devices.
 - 3. Alarm signaling devices on a NAC.
 - 4. Contact controlled building equipment.
- B. The supervised SLC communication port shall be an integral part of the transponder.
- C. Each Transponder shall be powered from a local power supply, and shall provide all power necessary for transponder operation, including standby power and power for standby and alarm operation of all field devices connected to the transponder.
- D. Transponders shall communicate with, and be controlled by, the host fire alarm control unit via a 2-wire signaling line circuit (SLC).
- E. Transponder enclosures shall be used to house batteries and power supplies to allow a true distributed processing.
- F. Each monitor and each control point on a transponder module shall have a LED that will illuminate when the point is active.
- G. Each transponder module shall provide six to ten points for connection to devices field devices on IDCs, NACs, or equipment control circuits. A mix of the following types of transponder modules shall be provided to meet the requirements of this project.
 - Two-wire, contact monitoring modules shall be capable of monitoring ten IDCs, wired Class A or Class B.
 - 2. Two-wire, conventional smoke detector monitoring modules shall be capable of monitoring six IDCs, wired Class A or Class B. Each circuit shall be capable of monitoring up to 30 compatible 2-wire smoke detectors, and/or any number of contact type initiating devices.
 - 3. Supervised output modules shall be capable of controlling six NACs. Each circuit shall be capable of delivering 3 amps (resistive) at 24 VDC or 22.5 watts of audio power at 25 Vrms.

Auxiliary relay modules shall provide six Form-C relay contacts rated at 3 amps (resistive) at 24 VDC.

2.30 Auxiliary Field Power Supply - Addressable

- A. The auxiliary addressable power supply is a remote 24 VDC power supply used to power notification appliances and field devices that require regulated 24 VDC power. The power supply shall also include and backup batteries.
- B. The addressable power supply for the fire alarm system shall provide up a minimum of 6.0 amps of 24 volt DC regulated power for NAC power or 5 amps of 24 volt DC general power. The power supply shall have an additional 0.5 amp of 24 VDC auxiliary power for use within the same cabinet as the power supply. It shall include an integral charger designed to charge 7.0 25.0 amp-hour batteries.
- C. The addressable power supply shall provide four individually addressable NACs that may be configured as two Class A and two Class B or four Class B only NACs. All circuits shall be power-limited per UL 864 requirements.
- D. The addressable power supply shall provide built-in synchronization for certain notification appliances on each circuit without the need for additional synchronization modules. The power supply's output circuits shall be individually selected for synchronization. A single addressable power supply shall be capable of supporting both synchronized and non-synchronized notification appliances at the same time.
- E. The addressable power supply shall operate on 120 or 240 VAC, 50/60 Hz input (primary) power.
- F. The interface to the power supply from the FACU shall be via the SLC or other multiplexed means. Power supplies that do not use an intelligent interface are not suitable substitutes. The required wiring from the FACU to the addressable power supply shall be a single unshielded twisted pair wire.
- G. The addressable power supply shall supervise for battery charging failure, AC power loss, power brownout, battery failure, NAC loss, and optional ground fault detection. In the event of a trouble condition, the addressable power supply shall report the incident and the applicable address to the FACU via the SLC.
- H. The addressable power supply shall have an A.C. Power Loss Delay option. If this option is utilized and the addressable power supply experiences an A.C. power loss, reporting of the incident to the FACU will be delayed. A delay time of eight or sixteen hours shall be DIP switch selected.
- I. NOT USED
- J. The addressable power supply mounts in either the FACU back box or its own dedicated surface mounted back box with cover.
- K. Each of the four power supply output circuits shall be DIP switch selected for NAC or general purpose 24 VDC power. Any output circuit shall be able to provide up to 2.5 amps of 24 VDC power.
- L. The addressable power supply output circuits shall be individually supervised when they are selected to be either a NAC when wired Class A or by the use of an end- of-line resistor for a Class B configuration. When the power supply output circuit is selected as general 24 VDC power, the circuit shall be individually supervised when an end-of-line relay is used.
- M. When selected for NAC operation, the output circuits shall be individually DIP switch selectable for Steady, March Time, Dual Stage or Temporal signal coding.
- N. When selected as a NAC, the output circuits of the addressable power supply shall have the option to be coded by the use of a universal zone coder that will allow up to 256 zone codes.

- O. The addressable power supply shall interface and synchronize with other power supplies of the same type. The required wiring to interface multiple addressable power supplies shall be a single unshielded, twisted pair wire.
- P. An individual or multiple interfaced addressable power supplies shall have the option to use an external charger for battery charging. Interfaced power supplies shall have the option to share backup battery power.
- 2.31 Strobe Lights and Strobe/Horn Notification Devices
 - A. The strobes shall be System Sensor SpectrAlert Advance series, or equal which is listed to UL and approved for fire protective service. The strobes shall be wired as a primary-signaling notification appliances and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The products shall operate between 0 and 49 degrees Celsius from a regulated DC, or full-wave rectified, unfiltered power supply. The strobes shall be Bilingual and indicate both "FIRE" and "FEU". Strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.
 - B. The strobe horn notification devices shall be System Sensor SpectrAlert Advance series, or equal which is listed to UL and approved for fire protective services. The strobe performance will be as specified above. The horn shall be rated at 88+ dBA at 16 volts. The strobe and the horn must be separately circuited or separately addressable to enable activation of audible notification only upon selected events (see Fire Alarm Matrix in the drawings).
- 2.32 Abuse Resistant Covers
 - A. All fire alarm initiation and notification devices mounted in inmate accessible areas below a height of 12' AFF must be protected by manufacturer's approved abuse resistant security covers. Affix covers with anchors appropriate to the substrate and torx pin reject security screws.

2.33 BATTERIES AND EXTERNAL CHARGER:

- A. Battery:
 - 1. Shall be 12 volt, Gel-Cell type.
- B. Battery shall have sufficient capacity to power the fire alarm system for not less than twenty-four hours plus 5 minutes of alarm upon a normal AC power failure.
 - 1. The batteries are to be completely maintenance free. No liquids are required. Fluid level checks refilling, spills and leakage shall not be required.
- C. External Battery Charger:
 - 1. Shall be completely automatic, with constant potential charger maintaining the battery fully charged under all service conditions. Charger shall operate from a 120/240-volt 50/60 hertz source.
 - 2. Shall be rated for fully charging a completely discharged battery within 48 hours while simultaneously supplying any loads connected to the battery.
 - 3. Shall have protection to prevent discharge through the charger.
 - 4. Shall have protection for overloads and short circuits on both AC and DC sides.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation shall be in accordance with UL as shown on the drawings, and as recommended by the major equipment manufacturer.

- B. All conduit, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished areas. Smoke detectors shall not be installed prior to the system programming and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.
- C. All fire detection and alarm system devices, control panels and remote annunciators shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas.
- D. Manual Pull Stations shall be suitable for surface mounting or semi-flush mounting as shown on the plans, and shall be installed not less than 42 inches, nor more than 48 inches above the finished floor.
- E. Existing wiring shall be testing for shorts, opens and insulation resistance at 1kv. Any conductors that show resistance of greater than 5 ohm, insulation breakdown of less than 1 megohm, or conductor to conductor resistance of less than 1 megohm shall be replaced.
- F. Conductors for devices which have been removed or relocated may be spliced using a Raychem TE Connectivity S, B, D series solder sleeve or equivalent. Crimp, twist-on and other mechanical spicing methods are prohibited. Solder sleeve shall be compatible with the conductors used. Spliced conductors are permitted only in accessible junction boxes. Splices shall be inspected by owner designee prior to cover up.

3.2 TYPICAL OPERATION

- A. Actuation of any manual station, smoke detector heat detector or water flow switch shall cause the following operations to occur unless otherwise specified (see also fire alarm matrix in the drawings):
 - 1. Actuate all strobe/horn or strobe units until the panel is reset.
 - 2. Light the associated indicators corresponding to active speaker circuits.
 - Release all magnetic door holders to doors to adjacent zones on the floor from that the alarm was initiated.
 - 4. Return all elevators to the primary or alternate floor of egress.
 - 5. A smoke detector in any elevator lobby shall, in addition to the above functions, return all elevators to the primary or alternate floor of egress.
 - 6. Smoke detectors in the elevator machine room or top of hoistway shall return all elevators in to the primary or alternate floor. Smoke detectors or heat detectors installed to shut down elevator power shall do so in accordance with ANSI A17.1 requirements and be coordinated with the electrical contractor.
 - 7. Duct type smoke detectors shall, in addition to the above functions shut down the ventilation system or close associated control dampers as appropriate.
 - 8. Activation of any sprinkler system low pressure switch or valve tamper switch shall cause a system supervisory alarm indication.

3.3 TEST

- A. Provide the service of a competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system.
- B. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
- C. Close each sprinkler system flow valve and verify proper supervisory alarm at the FACP.
- D. Verify activation of all flow switches.
- E. Open initiating device circuits and verify that the trouble signal actuates.

- F. Open signaling line circuits and verify that the trouble signal actuates.
- G. Open and short notification appliance circuits and verify that trouble signal actuates.
- H. Ground initiating device circuits and verify response of trouble signals.
- I. Ground signaling line circuits and verify response of trouble signals.
- J. Ground notification appliance circuits and verify response of trouble signals.
- K. Check presence and audibility of tone at all alarm notification devices.
- L. Check installation, supervision, and operation of all intelligent smoke detectors during a walk test.
- M. Each of the alarm conditions that the system is required to detect should be introduced on the system. Verify the proper receipt and the proper processing of the signal at the FACP and the correct activation of the control points.
- N. When the system is equipped with optional features, the manufacturer's manual should be consulted to determine the proper testing procedures. This is intended to address such items as verifying controls performed by individually addressed or grouped devices, sensitivity monitoring, verification functionality and similar.

3.4 FINAL INSPECTION

- A. At the final inspection a factory trained representative of the manufacturer of the major equipment shall demonstrate that the systems function properly in every respect. Prior to submission for final inspection the systems integrator will provide documentation of full systems operation test per NFPA 72 to the Architect/Engineer. No final inspection will be approved without receipt of this documentation.
- B. Georgia State Fire Marshal's office shall witness the final test of the fire alarm system. Minimum of 72 hours notice is required.

3.5 INSTRUCTION

- A. Provide instruction as required for operating the system. Hands-on demonstrations of the operation of all system components and the entire system including program changes and functions shall be provided.
- B. The contractor and/or the systems manufacturer's representatives shall provide a typewritten "Sequence of Operation."

END OF SECTION

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APPENDIX 2 SAMPLE COUNTY CONTRACT FOR CONSTRUCTION

STATE OF GEORGIA COUNTY OF DEKALB

	CONTRACT, made as of thisday of, 20, (hereinafter called the			
	ition date") by and between, DEKALB COUNTY , a political subdivision of the State of the (hereinafter called the "County") and, a			
	zed pursuant to the laws of the State of(hereinafter called the			
_	ractor").			
	L CCODE OF WORK			
	I. <u>SCOPE OF WORK</u>			
A.	The term "Work" means the construction, labor, materials, equipment, tools, machinery			
	testing, temporary services and utilities, supervision, administration, coordination			
	planning, insurance, bonds, transportation, security, and all other services and things			
	necessary to provide the County with the facilities, improvements, features, and functions			
	in strict conformity with the General Requirements attached hereto as Attachment A, and as described in the Specifications and the Drawings included in the Bid Document			
	Package. The Contractor agrees to complete the Work in a good, firm, substantial and			
	workmanlike manner in strict conformity with this Contract.			
	(1) The Work relates to the following Project:			
	(2) Work not included in this Contract (<i>if applicable</i>):			
B.	Unless otherwise stipulated, the Contractor shall furnish all of the Work in accordance			
	with the Contract and all incidental work necessary to complete the Project in an			
	acceptable manner, ready for use, occupancy, or operation by the County. The			
	Contractor shall be responsible for the entire Work and every part thereof.			
	II. TIME, TERM AND LIQUIDATED DAMAGES			
Α	Contract Time. The Contractor shall commence the Work under this Contract within			
11.	ten (10) days from the date on the Notice to Proceed. Contractor shall fully complete the			
	Work within calendar days from and including the date on the Notice to Proceed			
	If the Change Order only seeks to extend the Contract Time, it may be approved and			

executed by the DeKalb County Chief Executive Officer or his/her designee and the Contractor in accordance with the terms of this Contract.

B. Contract Term. As required by O.C.G.A §36-60-13, this Contract shall commence immediately upon the execution date. This Contract shall (i) terminate without further obligation on the part of the County each and every December 31st, as required by O.C.G.A. § 36-60-13, as amended, unless terminated earlier in accordance with the termination provisions of this Contract; (ii) automatically renew on each January 1st, unless terminated in accordance with the termination provisions of this Contract; and (iii) terminate absolutely, with no further renewals, on December 31, 20____, unless extended by Change Order adopted and approved by the DeKalb County Governing Authority and the Contractor in accordance with the terms of this Contract.

OR

- **B.** Contract Term. (May be used for public works construction contracts for waste-water treatment, storm-water, water or sewer system or any combination of such systems) As allowed by O.C.G.A. §36-60-15.1, this Contract shall commence immediately upon the execution date. This Contract shall terminate without further obligation on the part of the County, with no further renewals, on _______, 20______, unless extended by Change Order adopted and approved by the DeKalb County Governing Authority and the Contractor in accordance with the terms of this Contract.
- C. Liquidated Damages. The Contractor acknowledges that time is of the essence with respect to the Work governed by this Contract. Contractor acknowledges and recognizes that if it fails to achieve Substantial Completion of any portion of the Work within the Contract Time as may be extended in accordance with the terms of this Contract, the County will sustain substantial losses as a result of such failure. The Contractor further acknowledges that the County will suffer damages that are difficult if not impossible to accurately estimate. Contractor shall pay liquidated damages of nine hundred twelve dollars (\$912.00) for fire watch services for each day that Substantial Completion of the Work is delayed past the Contract Time. The Contractor agrees that the foregoing rate is a reasonable pre-estimate of the probable damages that the County will suffer if Substantial Completion is delayed, and said daily rate is intended to compensate the County for its damages and is not intended to penalize the Contractor for its delay. The County may deduct such liquidated damages from any unpaid amounts then or thereafter due the Contractor under this Contract. Any liquidated damages not deducted from any unpaid amounts due the Contractor are payable to the County at the County's demand, together with interest from the date of the demand at a rate equal to seven percent (7%) per annum.

III. PAYMENT

 terms of this Contract. The term "Change Order" includes the term "amendment" and shall mean a written order authorizing a change in the Work, and an adjustment in Contract Price to Contractor or the Contract Term, as adopted and approved by the Contractor and the DeKalb County Governing Authority, or the Chief Executive Officer, if exempted from Governing Authority adoption and approval in accordance with the express terms of this Contract. The Chief Executive Officer or his/her designee shall have the authority to approve and execute a Change Order lowering the Contract Price or increasing the Contract Price up to twenty percent (20%) of the original Contract Price, provided that the total amount of the increase authorized by such Change Order is less than \$100,000.00. If the original Contract or Purchase Order Price does not exceed \$100,000.00, but the Change Order will make the total Contract Price exceed \$100,000.00, then the Change Order will require approval by official action of the Governing Authority. Any other increase of the Contract Price shall be by Change Order adopted and approved by the DeKalb County Governing Authority and the Contractor in accordance with the terms of this Contract. Amounts paid to the Contractor shall comply with and not exceed Attachment A, the Contractor's Cost Proposal, consisting page(s) attached hereto and incorporated herein by reference. Payment is to be made no later than thirty (30) days after submittal of undisputed invoice.

- B. Retainage and Partial Payments. Partial payments to the Contractor shall be made monthly, based on the value of Work completed as determined by the County, plus the value of materials and equipment suitably stored, insured and protected at the construction site. The Contractor shall submit a payment request for Work completed during the preceding calendar month to _______ for review and approval on or before last day of each month. If approved by the Project Manager or Designated Representative, the approved amount, less retainage, shall be paid to the Contractor thirty (30) days after the date the approved payment request is received by the County Finance Department. If a payment request is not approved by the County, then no payment shall be made to the Contractor until after the Project Manager or Designated Representative approves the payment request. The amount of retainage shall be as follows:
 - (1) Ten percent (10%) of each partial payment shall be withheld as retainage until the value of fifty percent (50%) of the Contract Price, including Change Orders and other authorized additions provided in the Contract, is due;
 - (2) When fifty percent (50%) of the Contract Price, as described above, becomes due and the manner of completion of the Work and its progress, quality, schedule are reasonably satisfactory to the County, and there are no outstanding claims by the Contractor, Subcontractors, lower tier subcontractors, as that term is defined by state law, or Suppliers, the withholding of retainage shall be discontinued.
 - (3) If after discontinuing retainage, the County determines that the Work is unsatisfactory or has fallen behind schedule, withholding of ten percent (10%) of each request for payment may be resumed. When the Work has reached Substantial Completion and the County determines the Work to be reasonably acceptable, the Contractor shall submit an invoice or other documents as may be required and receive payment of retainage within thirty (30) days. If minor items

remain incomplete at that time, an amount equal to two hundred percent (200%) of the value of each item, as determined by the County, shall be withheld until such items are completed.

- (4) The Contractor shall within ten days from the Contractor's receipt of each payment from the County pass through payments to Subcontractors and shall reduce each Subcontractor's retainage in the same manner as the Contractor's retainage is reduced by the County. The Subcontractor shall, within ten days from the Subcontractor's receipt of payment, pass through payments to lower tier subcontractors and shall reduce each lower tier subcontractor's retainage in the same manner as the Subcontractor's retainage is reduced.
- (5) Contractor and County agree to abide by all applicable provisions of Georgia state law concerning retainage, including but not limited to O.C.G.A. § 13-10-80 and 13-10-81. If the terms of this contract concerning retainage conflict with state law, state law governs.
- (6) For contracts relating to the installation, extension, improvement, maintenance or repair of any water or sewer facility add the following provision: As required by O.C.G.A. § 13-10-81, Retainage shall be invested by the County at the current market rate and any interest earned on the retained amount shall be paid to the Contractor when the Project has been completed within the time limits specified and for the price specified in this Contract or in change orders approved in accordance with the terms of this Contract, upon the County's receipt of certification by the engineer in charge of the Project in the manner and form required by O.C.G.A. §13-10-81.
- C. **Payment Requests and Invoices.** Payment Requests and invoice(s) must be submitted as follows:
 - (1) Original(s) must be submitted to:
 - Insert User Department Address here.
 - Upon award, Prime Contractor(s) with Local Small Business Enterprise (LSBE) Subcontractor(s) shall enter utilization reports electronically at www.dekalblsbe.info. Proof of payment to the LSBE Subcontractor must be uploaded and submitted. LSBE Subcontractors shall confirm receipt of payment from the Prime, electronically also, at www.dekalblsbe.info.
- D. **Title.** All equipment, materials, and Work covered by partial payments shall, upon payment thereof, become the sole property of the County, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of equipment, materials, and Work upon which payments have been made, or the restoration of any damaged Work.

E. **Final Payment.** Within sixty (60) days after the Work is fully completed and accepted by the County, the balance due hereunder shall be paid; provided, however, that final payment shall not be made until said Contractor shall have completed all Work necessary and reasonably incidental to the Contract, including final cleanup and restoration. Acceptance of the Work and the making of final payment shall not constitute a waiver of any claims by the County. All claims by the Contractor for breach of contract, violation of state or federal law, or compensation and extensions of time shall be submitted in writing to the Chief Executive Officer within sixty (60) days after completion and acceptance of the Work as herein provided, or all such claims shall be forever barred.

IV. NOTICE

Any notice or consent required to be given by or on behalf of any party hereto to any other party hereto shall be in writing and shall be sent to the County's Chief Executive Officer and the Executive Assistant or to the Contractor or his authorized representative on the work site by (a) registered or certified United States mail, return receipt requested, postage prepaid, (b) personal delivery, or (c) overnight courier service. All notices sent to the addresses listed below shall be binding unless said address is changed in writing no less than fourteen days before such notice is sent. Future changes in address shall be effective upon written notice being given by the Contractor to the County's Executive Assistant or by the County to the Contractor's authorized representative via certified first class U.S. mail, return receipt requested. Such notices will be addressed as follows:

If to the Count	y	
-----------------	---	--

Chief Executive Officer
The Maloof Center
1300 Commerce Drive, 6th Floor
Decatur, Georgia 30030

and

Executive Assistant The Maloof Center 1300 Commerce Drive, 6th Floor Decatur, Georgia 30030

With a copy to:	Director of the Department of Purchasing and Contracting The Maloof Center 1300 Commerce Drive, 2 nd Floor Decatur, Georgia 30030
With a copy to:	

If to the Contractor:

With a copy to:	(Insert Contractor name and address)

V. <u>FEDERAL WORK AUTHORIZATION</u>

- A. Pursuant to O.C.G.A. §13-10-91, the County cannot enter into a contract for the physical performance of services unless the Contractor, its Subcontractor(s) and subsubcontractor(s), as that term is defined by state law, register and participate in the Federal Work Authorization Program to verify specific information on all new employees.
- B. Contractor certifies that it has complied and will continue to comply throughout the Contract Term with O.C.G.A. §13-10-91 and any related and applicable Georgia Department of Labor Rule.
- C. Contractor agrees to sign an affidavit evidencing its compliance with O.C.G.A. §13-10-91. The signed affidavit is attached to this Contract as Attachment B.
- D. Contractor agrees that in the event it employs or contracts with any Subcontractor(s) in connection with this Contract, Contractor will secure from each Subcontractor an affidavit that certifies the Subcontractor's current and continuing compliance with O.C.G.A. §13-10-91 throughout the Contract Term. Any signed Subcontractor affidavit(s) obtained in connection with this Contract shall be attached hereto as Attachment C.
- E. Each Subcontractor agrees that in the event it employs or contracts with any subsubcontractor(s), each Subcontractor will secure from each sub-subcontractor an affidavit that certifies the sub-subcontractor's current and continuing compliance with O.C.G.A. §13-10-91 throughout the Contract Term. Any signed sub-subcontractor affidavit(s) obtained in connection with this Contract shall be attached hereto as Attachment D.

VI. CORPORATE AUTHORITY

Contractor agrees to execute the Certificate of Corporate Authority, attached hereto as Attachment E. The officials of the Contractor executing this Contract are duly and properly in office and are fully authorized and empowered to execute the same for and on behalf of the Contractor. Contractor warrants that it has all requisite power and authority to enter into and perform its obligations under this Contract, and that the execution and delivery by the Contractor of this Contract and the compliance by the Contractor with all of the provisions of this Contract

(i) is within the purposes, powers, and authority of the Contractor; (ii) has been done in full compliance with applicable law and has been approved by the governing body of the Contractor and is legal and will not conflict with or constitute on the part of the Contractor a violation of or a breach of or a default under any indenture, mortgage, security deed, pledge, note, lease, loan, or installment sale agreement, contract, or other agreement or instrument to which the Contractor is a party or by which the Contractor is otherwise subject or bound, or any license, judgment, decree, law, statute, order, writ, injunction, demand, rule, or regulation of any court or governmental agency or body having jurisdiction over the Contractor; and (iii) has been duly authorized by all necessary action on the part of the Contractor. This Contract is the valid, legal, binding and enforceable obligation of the Contractor.

VII. PERFORMANCE AND PAYMENT BONDS AND INSURANCE REQUIREMENTS

- B. It is further agreed between the parties hereto that if at any time after the execution of this Contract and the surety bonds, the County shall deem the surety or sureties upon such bonds to be unsatisfactory, or if, for any reason, such bonds cease to be adequate to cover the performance of the Work, the Contractor shall, at its sole expense and within five (5) days after the receipt of notice from the County to do so, furnish additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to the County.
- C. Upon award, the Contractor shall, without expense to the County, provide certificates of insurance, and copies of signed insurance policies including declarations pages from companies that are authorized to engage in the insurance business in the state of Georgia and are otherwise acceptable to the County Finance Director or his/her designee, attached hereto as Attachment H. Such insurance shall be placed with admitted insurers that maintain an A.M. Best's rating of not less than A (Excellent) with a Financial Size Category of VII or better with coverage forms acceptable to Contractor. The insurance described below shall be maintained uninterrupted for the duration of the project, including any warranty periods, and shall protect Contractor, and others as required by

contract, for liabilities in connection with work performed by or on behalf of Contractor, its agents, representatives, employees or Contractors.

(1) Workers Compensation Insurance. Statutory workers compensation insurance is to be provided in compliance with the requirements of Georgia law with limits not less than the following:

Employer's liability insurance by accident, each accident \$1,000,000 Employer's liability insurance by disease, policy limit \$1,000,000 Employer's liability insurance by disease, each employee \$1,000,000

(2) *Commercial General Liability Insurance*. Commercial general liability insurance is to be provided with limits not less than the following:

\$1,000,000 per occurrence for bodily injury and property damage liability

\$1,000,000 personal and advertising injury liability

\$2,000,000 general aggregate

\$2,000,000 products-completed operations aggregate

\$ 100,000 damage to rented premises (each occurrence)

\$ 5,000 medical expense (any one person)

(3) *Umbrella or Excess Insurance*. Umbrella or excess insurance is to be provided with General Liability, Auto Liability and Employers Liability scheduled as underlying policies with limits not less than the following:

\$5,000,000 per occurrence \$5,000,000 aggregate

- (4) Comprehensive Automobile Liability Insurance. Comprehensive automobile liability insurance with form coverage is to be provided for all owned, non-owned and hired vehicles with combined single limit of \$1,000,000. Automobile liability insurance shall be written on ISO Business Auto Coverage Form CA 0001 (1990 edition or later), or a substitute form providing equivalent coverage, and shall cover liability for bodily injury and property damage arising from the use or operation of any automobile, including those owned, hired or otherwise operated or used by or on behalf of Contractor. The policy must include Broadened Pollution Liability Endorsement CA9948 12 93.
- (5) Builder's Risk Insurance Coverage (If Applicable). DeKalb County shall procure and maintain Builders Risk Insurance on the entire work which provides "Allrisk" form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism, malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and

Regulations, water damage (other than caused by flood), and such other perils or causes of loss as may be specifically required by Supplementary Conditions) until Final Completion and Acceptance of the Project. Such policy of insurance shall contain at least the following sub-limits of insurance and deductibles:

Sub-limits:

Property in Transit \$1,000,000 Property in Offsite Storage \$1,000,000 Plans & Blueprints \$25,000

Debris Removal 25% of Insured Physical Loss

Delay in Completion / Soft Cost TBD

Ordinance of Law (Increased Cost of \$1,000,000

Construction)

Flood and Earthquake TBD – Full Contract Value

Deductibles:

Flood and Earthquake \$25,000
Water Damage other than Flood \$100,000
All other Perils \$10,000

- D. The County, its elected officials, officers, employees and agents, hereinafter referred to in this article and in the article entitled "Certificates of Insurance" as "the County and its officers" are to be named as additional insured on all policies of insurance except worker's compensation insurance with no cross suits exclusion. The County and its officers shall be included as additional insureds under commercial general liability and commercial umbrella insurance, for liabilities arising out of both the ongoing and completed operations of Contractor. Such additional insured coverage shall be endorsed to Contractor's policy by attachment of ISO Additional Insured Endorsement forms CG 20 10 10 01 (ongoing operations) and CG 20 37 10 01 (products-completed operations), or form(s) providing equivalent coverage.
- E. All coverages required of the Contractor will be primary over any insurance or self-insurance program carried by the County.
- F. If the Contractor is a joint venture involving two (2) or more entities, then each independent entity will satisfy the limits and coverages specified here or the joint venture will be a named insured under each respective policy specified.
- G. In addition to procuring and maintaining commercial general liability insurance, automobile liability and commercial umbrella insurance, for the Contract Term, Contractor shall continue to procure and maintain the products-completed operations liability insurance coverage and commercial umbrella insurance after the Work is substantially complete for the entire Contract Term or for the applicable five-year statutory limitation, whichever is greater. For such period of time, all terms and conditions of such coverage shall remain unchanged, including the limits specified herein and the requirement to provide the County with coverage as an additional insured.

- H. Contractor agrees to waive all rights of subrogation and other rights of recovery against the County and its officers and shall cause each Subcontractor to waive all rights of subrogation for all coverage.
- I. Failure of the County to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the County to identify a deficiency from evidence provided will not be construed as a waiver of the Contractor's obligation to maintain such coverage.
- J. Contractor understands and agrees that the purchase of insurance in no way limits the liability of the Contractor.

VIII. CERTIFICATES OF INSURANCE

- A. Certificates shall state that the policy or policies shall not expire, be cancelled or altered without at least sixty (60) days prior written notice to the County. Policies and Certificates of Insurance listing the County and its officers as additional insureds (except for workers' compensation insurance) shall conform to all terms and conditions (including coverage of the indemnification and hold harmless agreement) contained in this Contract.
- B. The Contractor agrees to name the County and its officers as additional insured on the commercial general liability insurance, using the ISO Additional Insured Endorsement forms CG20101001 (ongoing operations) and CG20371001 (products-completed operations) forms, or form(s) providing equivalent coverage.
- C. Certificates of Insurance must contain the policy number, policy limits, and policy expiration date of all policies issued in accordance with this Contract; the location and operations to which the insurance applies. Certificates must be provided annually for the duration of the project. If applicable, a specific statement must be included that blasting coverage is included to the extent such risk is present; that Contractor's protective coverage applies to any Subcontractor's operations; and Contractor's contractual liability insurance coverage applies to any Subcontractor.
- D. This insurance for the County as the additional insured shall be as broad as the coverage provided for the named-insured Contractor. It shall apply as primary insurance before any other insurance or self-insurance, including any deductible, non-contributory, and waiver of subrogation provided to the County as the additional insured.
- E. The Contractor shall be wholly responsible for securing certificates of insurance coverage as set forth above from all Subcontractors who are engaged in the Work.
- F. If the County shall so request, the Contractor will furnish the County for its inspection and approval such policies of insurance with all endorsements, or confirmed specimens thereof certified by the insurance company to be true and correct copies.

- G. Contractor shall be responsible and have the financial wherewithal to cover any deductibles or retentions included on the certificate of insurance.
- H. Such certificates should be sent to the County and must identify the "Certificate Holder" as follows:

DeKalb County, Georgia
Director of Purchasing & Contracting
The Maloof Center
1300 Commerce Drive, 2nd Floor
Decatur, Georgia 30030

I. Copies of Required Insurance policies with Declarations Page(s) shall be attached hereto as Attachment H.

IX. ATTACHMENTS

A. This Contract includes the following Attachments all of which are incorporated herein by reference:

Attachment A, General Requirements, GR-1 through GR-46.

Attachment B, Contractor's Affidavit.

Attachment C, Subcontractor's Affidavit(s).

Attachment D, Sub-subcontractor's Affidavit(s).

Attachment E, Certificate of Corporate Authority or Joint Venture Certificates

Attachment F, Performance Bond and Accompanying Power of Attorney

Attachment G, Payment Bond and Accompanying Power of Attorney

Attachment H, Copies of Required Insurance policies with Declarations Page(s)

B. In addition to the foregoing, the Bid Document Package dated______, the original of which is maintained in the County's Department of Purchasing and Contracting, forms an essential part of this Contract as if fully set out herein.

IX. <u>FUNDING CLAUSE</u>

(If Applicable)

The Contractor has been	informed and u	inderstands that	funding for	r this Contra	ct is
provided under the	Act and express	ly agrees that pe	erformance of	of the Contrac	ct, in
whole or in part, is contingent u	pon and subject	to the availabili	ty of such f	funding under	r the
Act to DeKalb Cou	ınty, Georgia.				

Insert any requirements pertaining to Federal and/or State funding requirements or other legal requirements.

[SIGNATURES APPEAR ON NEXT PAGE]



IN WITNESS WHEREOF, the parties hereto have set their hands and caused their seals to be affixed hereupon in four (4) counterparts, each to be considered as an original by their authorized representatives.

NAME OF CONTRACTOR		DEKALB COUNTY, GEORGIA		
By:		by Dir.(SEAL)		
Signature	(SEAL)	MICHAEL L. THURMOND		
		Chief Executive Officer		
	1)	DeKalb County, Georgia		
Name (Typed or Printe	ed)			
		Date		
Title				
Federal Tax I.D. Numb	per			
Date				
ATTEST:		ATTEST:		
Signature		BARBARA H. SANDERS, CCC		
		Clerk of the Chief Executive Officer		
		and Board of Commissioners of		
Name (Typed or Printed	d	DeKalb County, Georgia		
Title				
APPROVED AS TO SUBST	ANCE:	APPROVED AS TO FORM:		
DeKalb County Department				
Director		County Attorney Signature		
		County Attorney Name		

(Typed or Printed)

ATTACHMENT A

GENERAL REQUIREMENTS

INDEX TO GENERAL REQUIREMENTS

<u>Section</u>	<u>Title</u>
GR-1	Definitions of Terms
GR-2	Prior Use by County
GR-3	Contractor's Obligations
GR-4	Authority of the County
GR-5	Changes in the Work and Change Orders
GR-6	Time for Completion
GR-7	Schedules, Reports, and Records
GR-8	County's Right to Suspend or Terminate Work
GR-9	Final Inspection
GR-10	Warranties, Guarantees and Correction of Work
GR-11	Contractor's Personnel and Independent Contractor Status
GR-12	Subcontracting
GR-13	Assignments
GR-14	Indemnification and Hold Harmless
GR-15	Royalties and Patents
GR-16	Laws and Regulations
GR-17	Permits and Inspection Fees
GR-18	Land and Rights-of-Way
GR-19	Protection of Work, Property, and Persons
GR-20	Prohibited Interests
GR-21	First Source Jobs Ordinance
GR-22	Foreign Corporations
GR-23	Specification and Drawings
GR-24	Contractor's Submittals
GR-25	As-Built Drawings
GR-26	Examination of Work by Contractor
GR-27	Inspection and Testing of Materials
GR-28	Inspection of Work
GR-29	Requests for Substitutions
GR-30	Rejections of Work and Materials
GR-31	Materials, Services, and Facilities
GR-32	Utilities During Construction
GR-33	Temporary Heat and Air Conditioning
GR-34	Maintenance Manual
GR-35	Weather Conditions
GR-36	Lines, Grades, and Measurements
GR-37	Cleaning Up

GR-38	Barricades
GR-39	No Third-Party Beneficiary
GR-40	Severability
GR-41	Interpretation
GR-42	Prior Contracts; Conflict in Documents
GR-43	Entire Agreement
GR-44	Counterparts
GR-45	Venue
GR-46	Right to Audit



GR-1. DEFINITIONS OF TERMS

The section captions contained in this Contract are for convenience only and do not in any way limit or amplify any term or provision hereof. The use of the terms "hereof," "hereunder" and "herein" shall refer to this Contract as a whole, inclusive of the Attachments, except when noted otherwise. The use of the masculine or neuter genders herein shall include the masculine, feminine and neuter genders and the singular form shall include the plural when the context so requires. The following terms shall have the meanings indicated:

"<u>Addendum</u>" or "<u>Addenda</u>" shall mean written or graphic instruments issued prior to the execution of the Contract, which modify or interpret the Work, or the Invitation to Bid by additions, deletions, clarifications, or corrections.

"Bid" shall mean the offer of the Bidder submitted on the prescribed form setting forth the price(s) for the Work to be performed.

"Bid Document Package" shall consist of documents entitled as follows: Acknowledgement of Contractor, Advertisement for Bids, Instructions to Bidders, Addenda, Business License, Utility Systems Contractor's License, Utility Manager's Certificate, Utility Foreman's Certificate, General Contractor's License, Bidder's Lump Sum Cost, Bidder's Unit Price, First Source Jobs Ordinance Information with Exhibits, LSBE Program Information Sheet with LSBE Exhibits, Certificate of Corporate Bidder, Certificate of Authority/Joint Venture, Bidder's Affidavit of Compliance with O.C.G.A.13-10-91, Reference and Release Form, Preferred Employee Tracking Form, Subcontractor Tracking Form, Bid Bond and Power of Attorney, Public Works Construction Affidavit and Oath of Successful Bidder, Technical Specifications, and Drawings.

"Bidder" shall mean any person, firm, or corporation submitting a Bid for the Work.

"Bonds" shall mean bid, performance, and payment bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the Contract.

"Change Order" includes the term "amendment" and shall mean a written order authorizing a change in the Work, if applicable, and an adjustment in the Contract Price, Contract Time or Contract Term, as adopted and approved by the Contractor and the DeKalb County Governing Authority, or the Chief Executive Officer, if exempted from Governing Authority adoption and approval in accordance with the express terms of this Contract.

"Contract" or "Agreement" shall consist of the written Contract executed by the parties, all attachments to the Contract, Change Orders, Field Orders, and the Bid Document Package. The intent of these documents is for the Contractor to furnish all materials, appliances, tools, labor and services of every kind necessary for the proper execution of the Work, and the terms and conditions of payment therefore.

"Contract Price" shall mean the total monies payable to the Contractor under the terms and conditions of the Contract.

"Contract Time" shall mean the number of days stated in the Contract for the completion of the Work.

"Contract Term" shall mean the length of time the Contract shall remain in effect.

"Contractor" or "General Contractor" shall mean the individual, firm, joint venture or corporation undertaking the execution of the Work as an independent contractor under the terms of the Contract and acting through his or its agents or employees.

"County" shall mean DeKalb County, Georgia.

"<u>Day(s)</u>" shall mean calendar day(s).

"<u>Drawings</u>" shall mean the part of the Contract which shows, largely through graphical presentation, the characteristics and scope of the Work to be performed and which have been prepared or approved by the County. The Drawings are included in the Bid Document Package.

"Field Order" shall mean a written order issued by an authorized County official/employee to the Contractor during construction effecting a change in the Work by authorizing an addition, deletion, or revision in the Work within the general scope of the Work not involving an adjustment in the Contract Price or a change to the Contract Time or Term. No Field Order shall be valid or effective unless it is signed by the County employee(s) who has been authorized in writing by the Chief Executive Officer or his/her designee to execute Field Orders.

"Notice of Award" shall mean a written notice of the acceptance of the Bid from the County to the successful Bidder.

"Notice to Proceed" shall mean a written communication issued by the County authorizing the Contractor to proceed with the Work and establishing the date of commencement of the Work. The effective date of the Notice to Proceed shall be the date set forth on the Notice to Proceed.

"Project" shall mean the undertaking to be performed as provided in the Contract.

"Shall" is mandatory; "may" is permissive.

"Specifications" or "Technical Specifications" shall mean a part of the Contract consisting of written descriptions of a technical nature regarding materials, equipment, construction systems, standards, and workmanship specified for this Project.

"Subcontractor" shall mean any person, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work.

"Submittals" shall mean all shop drawings, diagrams, illustrations, brochures, schedules, samples, and other data which are prepared by the Contractor, a Subcontractor, manufacturer,

Supplier, or distributor, which illustrate how specific portions of the Work shall be fabricated or installed.

"Substantial Completion" or "Substantial Completion of the Work" shall mean that date determined by the County when the construction of the Project or an expressly stipulated part thereof is sufficiently completed, in accordance with the Contract, so that the Project or stipulated part can be fully utilized for the purposes for which it is intended.

"Superintendent" shall mean the Contractor's authorized on-the-job representative designated in writing by the Contractor prior to commencement of any work.

"Supplier" shall mean any person, supplier, or organization who furnishes materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

"Work" shall have the meaning assigned to that term in the article in the Contract entitled Scope of Work."

GR-2. PRIOR USE BY COUNTY

Prior to completion of the Work, the County may take over operation and/or use of the Project or portions thereof. Such prior use of facilities by the County shall not be deemed as acceptance of any Work or relieve the Contractor from any of the requirements of the Contract.

GR-3. CONTRACTOR'S OBLIGATIONS

The Contractor shall, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities, and all things necessary or proper to perform and complete all the Work within the time herein specified and in accordance with the provisions of this Contract, the Specifications, the Drawings, and any and all supplemental drawings pertaining to the Work. Contractor shall furnish, erect, maintain, and remove such construction, plants, and such temporary works as may be required. Contractor alone shall be responsible for the safety, efficiency, and adequacy of its plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation. The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements and limitations imposed by the Contract and local ordinances, and state and federal laws; and shall do, carry on, and complete the entire Work.

GR-4. AUTHORITY OF THE COUNTY

A. The Contractor shall perform all of the Work under the general direction, and to the entire satisfaction, approval, and acceptance of the County. The County shall decide all questions relating to measurements of quantities, the character and

acceptability of the Work performed, and as to whether the rate of progress is such that the Work will be completed within the time limit of the Contract. All questions as to the meaning of the Drawings and the Specifications will be decided by the County.

- B. The approval of the County of any materials, plant, equipment, Drawings, or of any other items executed, or proposed by the Contractor, shall be construed only to constitute an approval of general design. Such approval shall not relieve the Contractor from the performance of the Work in accordance with the Contract, or from any duty, obligations, performance guarantee, or other liability imposed upon him by the provisions of the Contract.
- C. Whenever in this Contract, the words "directed," "required," "permitted," "ordered," or words of like import are used, it shall be understood that the direction, requirement, permission, or order of the County is intended, and similar words, "approved," "acceptable," "satisfactory," or words of like import shall mean approved by, acceptable to, or satisfactory to the County.

GR-5. CHANGES IN THE WORK, FIELD ORDERS, AND CHANGE ORDERS

- A. All changes, alterations, or instructions in regard to any feature of the Work that differ from the Drawings and Specifications must be approved in writing by Field Order or Change Order in all cases. No verbal instruction or order will be regarded as a basis for a claim for extra compensation or time.
- B. If a minor change in the Work is found to be necessary due to actual field conditions, the Contractor shall submit detailed drawings and written notification of the problems necessitating such departure for approval by the County before making the change. If the Contractor fails to make such request, no excuse will be entertained thereafter for Contractor's failure to carry out the Work in the required manner and to provide required guarantees, warranties, and Bonds, and Contractor shall not be entitled to any change in the Contract Price, Contract Time or the Contract Term.
- C. The County may at any time, by issuing a Field Order, make changes in the details of the Work. The Contractor shall proceed with the performance of any changes in the Work so ordered by the County unless such Field Order entitles the Contractor to a change in Contract Price, Time, and/or Term, in which event the Contractor shall give the County written notice thereof within fifteen (15) days after the receipt of the ordered change, and the Contractor shall not execute such changes until it receives an executed Change Order from the County. No extra cost or extension of time shall be allowed unless approved by the County and authorized by execution of a Change Order.

- D. The County may at any time order changes within the scope of the Work without invalidating the Contract.
- E. No claims for extra cost or time will be considered based on an escalation of prices throughout the Contract Term. The value of any work covered by a Change Order or of any claim for increase or decrease in the Contract Price shall be determined by one of the following methods in the order of precedence listed below.
 - (1) Unit prices previously approved.
 - (2) An agreed lump sum.
 - (3) The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the changed Work. In addition, there shall be added an amount agreed upon but not to exceed fifteen percent (15%) of the actual cost of such work to cover the cost of general overhead and profit.
- F. The parties' execution of any Change Order constitutes a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct or indirect costs associated with such change and any and all adjustment to the Contract Price and the construction schedule. In the event a Change Order increases the Contract Price, Contractor must include the Work covered by such Change Orders in requests for payment as if such Work were originally part of the Contract.

GR-6. TIME FOR COMPLETION

- A. The Contractor understands and agrees that the date of the beginning of Work, rate of progress, and time for completion of the Work are essential conditions of this Contract.
- B. The Contractor agrees that the Work shall be executed regularly, diligently, and uninterrupted at such rate of progress as will insure its full completion thereof within the Contract Time. It is expressly understood and agreed, by and between the Contractor and the County, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climate range and usual industrial conditions prevailing in this locality.
- C. If extraordinary adverse weather conditions are the basis for a claim for additional time, such claim shall be supported by the attachment of records of the National Oceanic and Atmospheric Administration showing meaningful variances from historic trends thereby substantiating the fact that weather conditions were

abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction activities. The Contractor shall be entitled to an extension of the Contract Time only for extraordinary adverse weather conditions that unavoidably delay activities scheduled at that time, and then only for the number of days of delay which are due solely to such extraordinary adverse weather conditions. The Contractor is not entitled to any costs associated with extraordinary adverse weather conditions.

D. The County shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of delays, regardless of cause. The sole remedy against the County for delays shall be the allowance of additional time for completion of the Work, the amount of which shall be based on actual and unavoidable delay.

GR-7. SCHEDULES, REPORTS, AND RECORDS

- A. The Contractor shall submit to the County such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records, and other data as the County may request concerning the Work performed or to be performed. The Contractor shall also submit a schedule of payments that he anticipates earning during the course of the Work.
- B. That Contractor shall coordinate and hold a meeting with its major Subcontractors and the County to discuss the Project schedule. Such meeting shall be held prior to Commencement of the Work under this Contract, but in no event later than ten (10) days after execution of this Contract by all parties. At that meeting, the Contractor shall present a draft Project schedule, and the Contractor and its Subcontractors shall, in collaboration with the County, assist in the preparation of a detailed and specific construction schedule. The Contractor shall be responsible for preparing and updating such schedule, which shall be complete in all respects and shall, when approved by the County, become the Construction Schedule and be automatically incorporated into the Contract and shall not be changed without the prior written consent of the County. The Construction Schedule shall not exceed the Contract Time, shall be revised and updated at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract, shall utilize Critical Path Method (CPM) software that is compatible with County software, and shall provide for expeditious and practicable execution of the Work. The Construction Schedule shall be cost-loaded.
- C. The Construction Schedule shall, in such detail as the County may require, show the order in which Contractor will carry on the Work, including dates on which the various parts of the Work will start, and the estimated date of completion of each part. It shall also depict all requisite shop drawing submittals and approvals,

- manufacturing, fabrication, the installation of materials, supplies and equipment, testing, start-up, and training.
- D. The Contractor shall prepare and keep current, for the County's approval, a schedule of submittals which is coordinated with the Construction Schedule and allows the County reasonable time to review submittals. The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the County.
- E. In the event the County determines that the performance of the Work has not progressed or reached the level of completion required by the Contract, the County will have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including, without limitation, (1) working additional shifts or overtime; (2) supplying additional manpower, equipment, and facilities; and (3) other similar measures (hereinafter referred to collectively as "Extraordinary Measures"). Such Extraordinary Measures must continue until the progress of the Work complies with the stage of completion required by the Contract and the Construction Schedule. The County's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the Construction Schedule. The Contractor is not entitled to an adjustment in the Contract Price for undertaking Extraordinary Measures required by the County. The County may exercise the rights furnished the County under or pursuant to this paragraph as frequently as the County deems necessary to ensure that the Contractor's performance of the Work will comply with the completion date set forth in the Contract as the Contract Time.

GR-8. COUNTY'S RIGHT TO SUSPEND OR TERMINATE WORK

- A. Termination for Convenience. County may, for its own convenience and at its sole option, without cause and without prejudice to any other right or remedy of County, elect to terminate the Contract by delivering to the Contractor, at the address listed in the Notices article of this Contract, a written notice of termination specifying the effective date of termination. Such notice shall be delivered to Contractor at least thirty (30) days prior to the effective date of termination.
- B. Termination for Default. If the Contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or applicable laws, or if he fails to supply sufficient skilled workers or suitable materials or equipment, make payments to Subcontractors or for labor, materials or equipment, or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the Work, or if he otherwise violates any provision of the Contract, then the County may, without prejudice to

any other right or remedy, and after giving the Contractor and his surety a maximum of seven (7) days from delivery of a written notice, declare the Contract in default and terminate this Contract. In that event, the County may take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor. The County may cause the Work to be completed and corrected by whatever method it deems expedient. If called upon by the County to finish the Work, the Contractor's surety shall promptly do so. In any case, the Contractor and its surety shall be liable to the County for any and all damages and costs incurred by the County as a result of any default by the Contractor, including without limitation all costs of completion or correction of the Work, liquidated damages, attorneys' fees, expert fees, and other costs of dispute resolution. Termination of this Contract pursuant to this paragraph may result in disqualification of the Contractor from bidding on future County contracts for a period of time not to exceed five (5) years.

- C. If Contractor's services are terminated by the County pursuant to paragraph A or B in this General Requirement, the termination will not affect any rights or remedies of the County then existing or which may thereafter accrue against Contractor or its surety. Any retention or payment of moneys due Contractor by County will not release Contractor from liability. If it is determined that the Contractor was not in default or that the failure to perform is excusable, a termination for default will be considered to have been a termination for the convenience of the County, and the rights and obligations of the parties shall be governed accordingly.
- D. In case of termination of this Contract before completion of the Work, Contractor will be paid only for materials and equipment accepted by the County and the portion of the Work satisfactorily performed through the effective date of termination as determined by the County.
- E. Except as otherwise provided in this General Requirement, neither party shall be entitled to recover lost profits, special, consequential or punitive damages, attorney's fees or costs from the other party to this Contract for any reason whatsoever.
- F. The parties' obligations pursuant to this General Requirement shall survive any Acceptance of Work, or expiration or termination of this Contract.

GR-9. FINAL INSPECTION

Upon notice from the Contractor that the Work is completed, the County shall make a final inspection of the Work, and shall notify the Contractor of all instances where the Work fails to comply with the Drawings and Specifications, as well as any defects the County may discover. At no cost to the County, the Contractor shall immediately make such alterations as are

necessary to bring the Work into compliance with the Contract, the Drawings, and Specifications.

GR-10. WARRANTIES, GUARANTEES AND CORRECTION OF WORK

- A. The Contractor warrants to the County that materials and equipment furnished under the Contract will be new and of good quality, unless otherwise required or permitted by the Contract; that the Work will be free from defects not inherent in the quality required or permitted; and that the Work will conform to the requirements of the Contract. Work not conforming to these requirements, including substitutions not properly approved and authorized, is considered defective. The County, in its sole discretion, may exclude from the Contractor's warranty; remedies for damage or defect which the County determines were caused by abuse; modifications not executed by the Contractor; improper or insufficient maintenance; improper operation; and normal wear and tear and normal usage.
- B. Upon the completion of the Work, and as a condition of final payment, the Contractor shall guarantee in writing that all Work has been accomplished in conformance with the Contract. If required by the County, the Contractor shall also furnish additional satisfactory evidence as to the kind and quality of materials and equipment.
- C. The Contractor shall promptly, and in no event later than 48 hours after receiving written demand from the County, remedy any error, omission, defect, or non-compliance in the Work discovered by the County during construction or at any time thereafter until one year after the final completion of the Work. Nothing herein shall be deemed to shorten any statutory period of limitation otherwise applicable to any legal action by the County against the Contractor.
- D. Contractor shall pay for any damage caused by any omission or defect in the Work, including without limitation, any damage to other improvements or facilities. In the event that the Contractor should fail to timely make repairs, adjustments, or other remedy that may be made necessary by such defects, the County may do so, and charge the Contractor the cost thereby incurred.
- E. All warranties and guaranties shall extend for the greatest of one (1) full year commencing on the dates of Substantial Completion of the Project or such longer period of time as is required by the Contract. The one (1) year period shall be extended with respect to portions of the Work first performed after Substantial Completion for a period of one (1) year after the actual performance of the Work. If any defect or deviation should exist, develop, be discovered or appear within such one (1) year period, the Contractor, at it sole cost and expense and immediately upon demand, shall fully and completely repair, correct, and eliminate such defect. The foregoing warranties and guarantees are cumulative of

and in addition to, and not restrictive of or in lieu of, any and all other warranties and guarantees provided for or required by law. No one or more of the warranties contained herein shall be deemed to alter or limit any other. The Performance Bond shall remain in full force and effect throughout the applicable guarantee period set forth in this paragraph.

- F. Neither the final payment nor any provision of the Contract, nor partial or entire occupancy or use of the Work by the County, shall constitute an acceptance of any part of the Work that is not in accordance with the Contract or relieve the Contractor of liability for incomplete or faulty materials or workmanship.
- G. All manufacturer warranties and guarantees shall be delivered to the County prior to Substantial Completion and such delivery shall be a condition precedent to the issuance of the Certificate of Substantial Completion. Before final payment, the Contractor shall assign and transfer to the County all guarantees, warranties and agreements from all contractors, Subcontractors, vendors, Suppliers, or manufacturers regarding their performance, quality of workmanship or quality of materials supplied in connection with the Work. The Contractor represents and warrants that all such guarantees, warranties and agreements will be freely assignable to the County, and that upon final completion of the Work, all such guarantees, warranties and agreements shall be in place and enforceable by the County in accordance with their terms. Contractor's obligations pursuant to this General Requirement shall survive any acceptance of Work, or termination or expiration of this Contract.

GR-11. CONTRACTOR'S PERSONNEL AND INDEPENDENT CONTRACTOR STATUS

The Contractor will supervise and direct the Work, including the Work of all A. Subcontractors. Contractor will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. An experienced Superintendent and necessary assistants competent to supervise the particular types of work involved shall be assigned to the Project by the Contractor, and shall be available at all times when work is in progress. The name of the Superintendent shall be submitted with qualifications of same prior to the start of the Work. If approved by the County, the Superintendent so named by the Contractor shall be employed by the Contractor and shall have served in a supervisory capacity on at least one Project of like description and size performed by the Contractor during the previous twelve months. Under no circumstances shall an employee of any Subcontractor serve as the Superintendent, unless approved by the County prior to being named Superintendent. Superintendent shall represent the Contractor, and all directions given to the Superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

- B. The Contractor shall not change key members of its staff without the prior consent of the County, unless such staff members prove to be unsatisfactory to the Contractor and cease to be in its employ. If the Contractor intends to change a key staff member (defined as certain full-time personnel stationed at the site including Project Manager, Superintendent, Project Engineer, Assistant Project Manager, Assistant Superintendent, or Assistant Project Engineer) it shall give the County written notice at least fifteen (15) days prior to the intended change. The written notice shall include a description of qualifications for the new proposed key staff member. The County shall have the right to approve or disapprove the proposed key staff member.
- C. Only persons skilled in the type of work which they are to perform shall be employed. The Contractor shall, at all times, maintain discipline and good order among his employees, and shall not employ any unfit person or persons or anyone unskilled in the work assigned him.
- D. The relationship between the County and the Contractor shall be that of owner and independent contractor. Other than the consideration set forth herein, the Contractor, its officers, agents, servants, employees, and any Subcontractors shall not be entitled to any County employee benefits including, but not limited to social security, insurance, paid annual leave, sick leave, worker's compensation, free parking or retirement benefits. All services provided by Contractor shall be by employees of Contractor or its Subcontractors and subject to supervision by Contractor. No officer or employee of Contractor or any Subcontractor shall be deemed an officer or employee of the County. Personnel policies, tax responsibilities, social security payments, health insurance, employee benefits and other administrative policies, procedures or requirements applicable to the Work or services rendered under this Contract shall be those of the Contractor, not the County.

GR-12. SUBCONTRACTING

- A. The Contractor understands and agrees that it shall be a breach of this Contract to subcontract any portion of the Work on this Project unless
 - 1. The Work and the Subcontractor proposed to perform it have been declared in the Bid to the Contract; or
 - 2. The Contractor shall have obtained advance written approval from the County.
- B. The Contractor further understands and agrees that any work on this Project, which the Contractor secures in violation of this General Requirement, shall be deemed a donation from the Contractor for which the County shall not be

obligated to pay. Nothing contained in this Contract shall create any contractual relation between any Subcontractor and the County. Upon request, Contractor shall provide the County with copies of each of its contract(s) and amendments with each Subcontractor.

C. Nothing contained in this Contract shall create, nor be interpreted to create privity, or any other relationship whatsoever, between the County and any person, or entity or than Contractor.

GR-13. ASSIGNMENTS

The Contractor agrees it shall not sublet, assign, transfer, pledge, convey, sell, or otherwise dispose of the whole or any part of this Contract or his right, title, or interest therein to any person, firm, or corporation without the previous written consent of the County. If the County consents to any such assignment or transfer, then the Contractor binds itself, its partners, successors and assigns to all covenants of this Contract.

GR-14. INDEMNIFICATION AND HOLD HARMLESS

- A. The Contractor shall be responsible from the execution date or from the time of the beginning of the Work, whichever shall be the earlier, for all injury or damage of any kind resulting from the Work, to persons or property, including employees and property of the County. The Contractor shall exonerate, indemnify, and save harmless the County, its elected officials, officers, employees, agents and servants, hereinafter collectively referred to in this General Requirement as "the County Indemnitees," from and against all claims or actions based upon or arising out of any damage or injury (including without limitation any injury or death to persons and any damage to property) caused by or sustained in connection with the performance of this Contract or by conditions created thereby or arising out of or any way connected with Work performed under this Contract, as well as all expenses incidental to the defense of any such claims, litigation, and actions. Furthermore, Contractor shall assume and pay for, without cost to the County Indemnitees, the defense of any and all claims, litigation, and actions suffered through any act or omission of the Contractor, or any Subcontractor, or anyone directly or indirectly employed by or under the supervision of any of them. Notwithstanding any language or provision in this Contract, Contractor shall not be required to indemnify any County Indemnitee against claims, actions, or expenses based upon or arising out of the County Indemnitee's sole negligence.
- B. As between the County Indemnitees and the Contractor as the other party, the Contractor shall assume responsibility and liability for any damage, loss, or injury, including death, of any kind or nature whatever to person or property, resulting from any kind of claim made by Contractor's employees, agents, vendors, Suppliers or Subcontractors caused by or resulting from the performance of Work under this Contract, or caused by or resulting from any error, omission, or the negligent or intentional act of the Contractor, vendors, Suppliers, or

Subcontractors, or any of their officers, agents, servants, or employees. The Contractor shall defend, indemnify, and hold harmless the County Indemnitees from and against any and all claims, loss, damage, charge, or expense to which they or any of them may be put or subjected by reason of any such damage, loss, or injury.

- C. The Contractor expressly agrees to provide a full and complete defense against any claims brought or actions filed against the County Indemnitees, where such claim or action involves, in whole or in part, the subject of the indemnity contained in this Contract, whether such claims or actions are rightfully or wrongfully brought or filed. The County has the sole discretion to choose the counsel who will provide the defense.
- D. No provision of this Contract and nothing herein shall be construed as creating any individual or personal liability on the part of any elected official, officer, employee, agent or servant of the County, nor shall the Contract be construed as giving any rights or benefits hereunder to anyone other than the parties to this Contract.
- E. The parties agree that Contractor shall be liable for all fines or civil penalties, which may be imposed by any local, federal or state department or regulatory agency that are a result of Contractor's performance of the Work under this Contract. Contractor shall pay the costs of contesting any such fines. The parties' obligations pursuant to this General Requirement shall survive any acceptance of Work, or termination or expiration of this Contract.

GR-15. ROYALTIES AND PATENTS

The Contractor shall hold and save the County and its elected officials, officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the County, unless otherwise specifically stipulated in the Contract.

GR-16. LAWS AND REGULATIONS

A. The Contractor's attention is directed to the fact that all applicable federal, state, and County laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full. The Contractor shall keep itself and its employees and Subcontractors fully informed of all laws, ordinances, and regulations in any manner affecting those engaged or employed in the Work or the materials used in the Work or in any way affecting the conduct of the Work and of all orders and decrees of bodies or tribunals having any jurisdiction or

authority over same. If Contractor discovers any discrepancy or inconsistency in this Contract or in the Drawings or Specifications in relation to any such law, regulation, ordinance, order, or decree, Contractor shall promptly report the same, in writing, to the County. Contractor shall at all times observe and comply with all such laws, ordinances, and regulations, and shall protect and indemnify the County and its agents against any all damages and claims arising out of any violation of such law, ordinance, regulation, order, or decree, whether by Contractor or its employees or Subcontractors.

B. Contractor shall not discriminate against any person in its operations, activities or performance of Work under this Contract. Contractor shall affirmatively comply with all applicable provisions of federal, state and local equal employment laws and shall not engage in or commit any discriminatory practice against any person based on race, age, religion, color, gender, national origin, physical or mental disability, or political affiliation. Contractor shall maintain a Drug Free Workplace.

GR-17. PERMITS AND INSPECTION FEES

- A. Permits shall be secured by the Contractor, and inspections will be required, but the County will not charge the Contractor for permits and inspections obtained from the County. The Contractor shall secure and pay for any permits and inspection fees required by any other governmental entity or agency.
- B. Prior to execution of this Contract, Contractor shall provide the County with a copy of its current, valid business license. If Contractor is not a Georgia corporation, Contractor shall submit a certificate of authority to transact business in the state of Georgia and a copy of their valid business license issued by their home jurisdiction. Contractor shall provide the County with copies of all other required licenses, certifications and permits for the Contractor and/or all of Contractor's employees, personnel, agents or Subcontractors performing services that require licensure by the federal government, the State of Georgia, or the County. Contractor hereby warrants and represents that at all times during the Contract Term it shall maintain in good standing all required licenses, certifications, and permits required under federal, state and local laws necessary to perform the services required by this Contract.

GR-18. LAND AND RIGHTS-OF-WAY

Prior to entering on any land or right-of-way, the Contractor shall ascertain the requirements of applicable permits or easements obtained by the County, and shall conduct his work in accordance with requirements thereof, including the giving of notice. The Contractor shall be fully responsible for performing work to the requirements of any permit or easement granting entity, even though such requirements may exceed or be more stringent than that

otherwise required by the Contract, and shall compensate the County fully for any loss or expense arising from failure of the Contractor to perform as required by such entity. The Contractor shall provide, at its own expense without liability to the County, any additional land and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials.

GR-19. PROTECTION OF WORK, PROPERTY, AND PERSONS

- A. The Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the Project and other persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, lakes, drainage ways, walks, pavements, roadways, structures, and utilities not designated for removal, relocation or replacement in the course of construction.
- B. The Contractor shall erect and maintain, as required by the conditions and progress of the Work, all necessary warning safeguards for devices and the safety and protection of the Work, the public and adjoining property.
- C. If existing utilities or structures are indicated by the Contract, no warranty is made as to the accuracy or completeness of such indication or the information provided regarding such utilities or structures. The Contractor shall comply with all applicable state law concerning the marking and location of existing utilities. The Contractor shall, prior to commencing other on-site work, accurately locate above and below ground utilities and structures, which may be affected by the Work, using whatever means may be appropriate, and shall verify the nature and condition of such utilities and structures. The Contractor shall mark the location of existing utilities and structures, if they are not otherwise readily visible, with flagging, stakes, barricades, or other suitable means, and shall preserve and protect all utilities and structures not designated for removal, relocation, or replacement in the course of construction. Contractor shall notify the County promptly of discovery of any conflict between the Contract and any existing facility.
- D. All existing utilities, both public and private, including but not limited to, sewer, gas, water, electrical, and telephone services, shall be protected and their operation shall be maintained through the course of the Work. Any temporary shutdown of an existing service shall be arranged between the Contractor and the responsible agency. The Contractor shall assume full responsibility and hold the County harmless from the result of any damage that may occur as a result of the Contractor's activities in this regard.

E. In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, or unanticipated conditions where delay would substantially impact the time or cost of work, the Contractor, upon notification to the County, shall act to prevent threatened damage, injury, or loss. Any claim for compensation or extension of time by the Contractor due to such extra work shall be submitted to the County within ten (10) days of the date of performing such work or deviations in the manner prescribed for a Change Order.

GR-20. PROHIBITED INTERESTS

No official of the County who is authorized in such capacity and on behalf of the County to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction, or material supply contract, or any subcontract in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part hereof. No officer, employee, architect, attorney, engineer, or inspector of or for the County who is authorized in such capacity and on behalf of the County to exercise any legislative, executive, supervisory, or other similar functions in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

GR-21. FIRST SOURCE JOBS ORDINANCE

The Contractor is required to comply with the DeKalb County First Source Jobs Ordinance, Code of DeKalb County as Revised 1988, section 2-231 *et seq.*, and among other things, is required to make a good faith effort to hire DeKalb County residents for at least fifty percent 50% of all jobs created by an Eligible Project, as that term is defined in the First Source Ordinance, using the First Source Registry.

GR-22. FOREIGN CORPORATIONS

In the event the Contractor is a foreign corporation, partnership, or sole proprietorship, the Contractor hereby irrevocably appoints the Georgia Secretary of State as its agent for service of all legal process for the purposes of this Contract only.

GR-23. SPECIFICATIONS AND DRAWINGS

A. The Specifications, the Drawings and the Contract shall be supplementary to each other, and any material, workmanship, and/or service which may be in one, but not called for in the others, shall be as binding as if indicated, called for, or implied by all.

- B. Each section or type of work is described separately in the Technical Specifications; however, should any item of material, equipment, work, or combinations of such be required in one section, and not be described in that section and a similar item described in another section, that description shall apply regardless of the section under which it is described.
- C. Any discrepancies found between the Drawings and Specifications and site conditions, or any inconsistencies or ambiguities in the Drawings or Specifications shall be immediately reported to the County, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies, or ambiguities shall be done at the Contractor's risk.
- D. Upon award of the Contract, the Contractor will be supplied, free of charge, up to three complete sets of the Contract Drawings and Specifications. Any prints and Specifications in excess of these shall be furnished at cost at the Contractor's expense.
- E. The Contractor shall furnish, with reasonable promptness, all samples as directed by the County for approval for conformance with the design concept of the Project and for compliance with the information stated in the Contract. The Work shall be in accordance with approved samples.
- F. The County may, without changing the scope of the Work, furnish the Contractor additional instructions and detail drawings, as necessary to carry out the Work required by the Contract. The additional drawings and instructions thus supplied will become a part of the Contract. The Contractor shall carry out the Work in accordance with the additional detail drawings and instructions.
- G. Attention is directed to the fact that the detailed Specifications and separate sections may be written in short or abridged form. In regard to every section of the Specifications and all parts thereof, mentioned therein, or indications on the Drawings of articles, materials, operations, or methods, requires that the Contractor:
 - (1) Provide each item mentioned and indicated of a quality or subject to qualifications noted;
 - (2). Perform according to conditions stated, each operation prescribed; and
 - (3) Provide therefore all necessary labor, equipment, and incidentals.
- H. For convenience of reference and to facilitate the letting of contracts and subcontracts, these Specifications are separated into titled sections. Such separation shall not, however, operate to make the County an arbiter to establish limits for the contracts between the Contractor and Subcontractors.

I. Notwithstanding the appearance of such language in the various sections of the Specifications as, "The Paving Contractor," "The Grading Contractor," etc., the Contractor is responsible to the County for the entire Contract and the execution of all Work referred to in the Contract.

GR-24. CONTRACTOR'S SUBMITTALS

- A. The Contractor shall submit all Submittals to the official or employee so designated by the chief executive officer all Submittals as required under the Specifications and in such time and manner that will allow at least ten (10) days for the County's review, pursuant to the Construction Schedule. No portion of the Work shall commence until all Submittals relating to such portion have been approved by the County.
- B. The approved Drawings will be supplemented by such shop drawings as are needed to adequately control the Work. Shop Drawings, product data, samples and other Submittals are not parts of the Contract. The purpose of their submittal is to demonstrate for those portions of the Work for which Submittals are required by the Contract, the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract. Informational Submittals, upon which a County employee, the Architect or Engineer, if retained by the County in connection with the Project, is not expected to take responsive action, may be so identified in the Contract. Submittals which are not required by the Contract may be returned by the County without action. The approval of a Submittal shall not authorize any deviation from or alteration of the Drawings or Specifications absent a Change Order or Field Order.
- C. Shop drawings to be furnished by the Contractor for any structure shall consist of such detailed drawings as may be required for the execution of the Work.
- D. Drawings for false work, centering, and form work may also be required per the Specifications and in such cases shall be likewise subjected to approval unless approval is waived.
- E. The County's review will be within reasonable promptness as to cause no delay in the Work. Approval of the Contractor's Submittals does not relieve the Contractor of any responsibility for accuracy of dimensions and details or from otherwise ensuring that the Work complies with the requirements of the Contract. It is mutually agreed that the Contractor shall be responsible for agreement and conformity of Submittals with the Drawings and Specifications. The County will review and approve or take other appropriate action upon the Contractor's Submittals such as shop drawings, product data and samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract. Review of submittals is not conducted for the purpose of determining the accuracy and completeness of details such as dimensions and quantities, or for substantiating instructions for installation or

performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract. The County's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences or procedures. The County's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

- D. It is the responsibility of the Contractor to check all Submittals before same are submitted to the County for approval. Submittals which have not been checked and approved by the Contractor will not be reviewed by the County.
- E. Submittals shall be submitted only by the Contractor who shall indicate by a signed stamp on the drawings that he has checked the Submittals and that the work shown on them is in accordance with Contract requirements and has been checked for dimensions and relationship with work of all other trades involved. Under no conditions shall Submittals be accepted from anyone other than the Contractor.
- F. The Contractor shall furnish the County with at least six copies of all Submittals for approval. Two finally approved copies will be returned to the Contractor for his use. The Contract Price shall include the cost of furnishing all Submittals and the Contractor will be allowed no extra compensation for such drawings.
- G. The approval of such Submittals shall not relieve the Contractor from responsibility for deviations from Drawings or the Specifications unless he has in writing called attention to such deviations, and the County has approved the changes or deviations in writing at the time of submission, nor shall it relieve him from the responsibility for errors of any kind in Submittals. When the Contractor does call such deviations to the attention of the County, he shall state in writing whether or not such deviations involve any extra cost. If this is not mentioned, it will be assumed that no extra cost is involved for making the change.
- H. The Contractor shall prepare and maintain a log of all Submittals which includes, at a minimum, the submittal number, revision number, description, responsible company, proposed submittal date, date actually submitted, date approved, any comments received, approval status, and resubmittal information. The log shall be updated at least on a monthly basis and made available to the County for review upon request.

GR-25. AS-BUILT DRAWINGS

The Contractor shall maintain a red-lined set of drawings on site during the progress of the Work, indicating any Field Orders, Change Orders and the location of the portion of the Work or equipment actually installed. The Contractor shall, upon completion of the Work, furnish a marked set of reproducible drawings indicating any field changes and the location of Work as actually installed, if different from the requirements of the Contract, and deliver them to

the County in hard copy as well as an electronic copy compatible with the County's software and hardware system.

GR-26. EXAMINATION OF WORK BY CONTRACTOR

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the Work, the configuration of the ground, the character, quality, and quantity of the facilities needed preliminary to and during the prosecution of the Work, the general and local conditions, and all other matters which can in any way affect the Work or the cost thereof under this Contract.

GR-27. INSPECTION AND TESTING OF MATERIALS

Unless otherwise specifically provided for, the inspection and testing of materials and finished articles to be incorporated in the Work as required by the Specifications shall be made by the County, or bureaus, laboratories, or agencies selected by the County. The cost of such inspection and testing shall be paid by the Contractor unless County agrees to pay the cost. Materials and finished articles shall have passed the required tests prior to the incorporation of such materials and finished articles in the Work. The County may require, and the Contractor shall furnish if required to do so, certificates from manufacturers to the effect that the products or materials furnished by them for use in the Work comply with the applicable specified requirements for the materials or products being furnished.

GR-28. INSPECTION OF WORK

- A. The Contractor shall, at all times, permit and facilitate inspection of the Work by authorized representatives of the County and public authorities having jurisdiction in connection with the Work of this Contract. The presence or observations of the County or its representative at the site of the Work shall not be construed to, in any manner, to relieve the Contractor of its responsibility for strict compliance with the provisions of the Contract.
- B. If the Drawings, Specifications, County's instructions, laws, ordinances, or a public authority require any work to be specially tested or approved, the Contractor shall give the County timely notice of its readiness for observation or inspection. If the inspection is by another authority, then the County shall be advised of the date fixed for such inspection. Required certificates of inspection shall be secured by the Contractor. Contractor, having secured all certificates of inspection, will deliver same to the County upon completion. If any Work should be covered up without approval or consent of the County, it shall, if required by the County, be uncovered for examination at the Contractor's expense. The recovering of such Work after inspection shall be at Contractor's expense.
- C. Should any disagreement or difference arise as to the estimate, quantities, or classifications or as to the meaning of the Drawings or Specifications, or any point concerning the character, acceptability, and nature of the several kinds of

- work, any materials and construction thereof, the decisions of the County shall be final and conclusive and binding upon all parties to the Contract.
- D. If the County determines that portions of the Work require additional testing, inspection or approval beyond the requirements of the Specifications, the County will instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the County, and the Contractor shall give timely notice to the County of when and where tests and inspections are to be made so that the County may be present for such procedures. Such costs, except as provided below, shall be at the County's expense.
- E. If such procedures for testing or inspection reveal failure of the portions of the Work to comply with requirements established by the Contract, all costs made necessary by such failure including those of repeated procedures shall be at the Contractor's expense.
- F. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract, be secured by the Contractor and promptly delivered to the County or the Architect if one is retained by the County in connection with the Project. Tests or inspections conducted, pursuant to the Contract, shall be made promptly to avoid unreasonable delay in the Work.

GR-29. REQUESTS FOR SUBSTITUTIONS

- A. Requests for substitutions of proprietary products or of a particular manufacturer, vendor, or Subcontractor must be accompanied by the following documentation:
 - (1) Full explanation of the proposed substitution and submittal of all supporting data including technical information, catalog cuts, warranties, test results, installation instructions, operating procedures, and other like information necessary for a complete evaluation of the substitution;
 - (2) Reasons the substitution is advantageous or necessary, including benefits to the County and the Work in the event the substitution is acceptable;
 - (3) The adjustment, if any, in the Contract Price, in the event the substitution is acceptable;
 - (4) The adjustment, if any, in the Contract Term or Time and the construction schedule in the event the substitution is acceptable;
 - (5) An affidavit stating that (1) the proposed substitution conforms and meets all the requirements of the pertinent Specifications and the requirements shown on the Drawings and (2) the Contractor accepts the warranty and correction obligations in connection with the proposed substitution as if originally specified;

- (6) Proposals for substitutions must be submitted in triplicate to the County in sufficient time to allow the County no less than ten (10) working days for review; and
- (7) No substitutions will be considered or allowed without the Contractor's submittal of complete substantiating data and information as stated hereinbefore.
- B. Substitutions and alternates may be rejected at the County's discretion without explanation and will be considered only under one or more of the following conditions:
 - (1) Required for compliance with interpretation of code requirements or insurance regulations then existing;
 - (2) Unavailability of specified products, through no fault of the Contractor; or
 - (3) Subsequent information discloses inability or specified products to perform properly or to fit in designated space;
 - (4) Manufacturer/fabricator refuses to certify or guarantee performance of specified product as required; and
 - (5) When in judgment of the County, that a substitution would be substantially to the County's best interests, in terms of costs, time, or other considerations.
- C. Whether or not any proposed substitution is accepted by the County, the Contractor must reimburse the County for any fees charged by the Architect or other consultants for evaluating each proposed substitute. By making requests for substitutions based on the above, the Contractor:
 - (1) Represents and warrants that the Contractor has personally investigated the proposed substitute product or Subcontractor and determined that it is equal or superior in all respects to the product or Subcontractor previously specified;
 - (2) Represents and warrants that the Contractor will provide the same warranty for the substituted product or for the workmanship of the substituted Subcontractor, as applicable, that the Contractor would have provided for the product or Subcontractor previously specified;
 - (3) Certifies that the cost data presented, in the form of certified quotations from Suppliers of both specified and proposed equipment is complete and includes all related costs under this Contract, but excludes costs under

- separate contracts, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
- (4) Agrees that the Contractor will coordinate the installation of the accepted substitution, making such changes as may be required for the Work to be complete and in accordance with the Contract in all respects.
- D. Contractor shall not propose an item for substitution unless it is equal to or superior to the specified item or items in construction, efficiency, and utility. The opinion of the County as to the equality or superiority of the item shall be final, and no substitute material or article shall be purchased or installed without the County's written approval.
- E. In case of a difference in price, the County shall receive all benefits of the difference in cost involved in any substitution, when lower, and the Contract altered by Change Order to credit the County with any savings to be obtained. However, the County shall not be charged for any additional cost in the case of a price increase.

GR-30. REJECTIONS OF WORK AND MATERIALS

- A. All Work that is defective or deviates from the Drawings or Specifications will be rejected. All rejected Work shall be replaced immediately with other material, equipment, or work which conforms with the Drawings and Specifications at no additional cost to the County. If rejected Work is not removed within forty-eight hours from the date of letter of notification, the County shall have the right and authority to stop the Work immediately and/or to arrange for the removal of said rejected Work at the cost and expense of the Contractor.
- B. Inspection of the Work shall not relieve the Contractor of any of its obligations, and defective Work shall be made good regardless of whether it has been previously inspected by the County and accepted or estimated for payment. The failure of the County to reject or condemn improper materials or workmanship shall not be considered as a waiver of any defect that may be discovered later.

GR-31. MATERIALS, SERVICES, AND FACILITIES

A. The Contractor shall at all times employ sufficient labor and equipment for executing the Work to full completion in the manner and time specified. Failure of the Contractor to provide adequate labor and equipment shall constitute a default of the Contract. The labor and equipment to be used in the Work by the Contractor shall be sufficient to meet the requirements of the Work and shall be such as to produce a satisfactory quality of work in accordance with accepted industry practices and within the Contract Time.

- B. Materials and equipment shall be so stored and handled as to insure the preservation of their quality and fitness for the Work. Stored materials and equipment to be incorporated in the Work shall be located so as to facilitate prompt inspection. No product which has in any way become unfit for the intended purpose shall be incorporated into the Work.
- C. Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, cleaned, and conditioned as directed by the manufacturer. Contractor shall promptly notify the County of any conflict between the instructions of any manufacturer and the requirements of the Drawings or the Specifications.
- D. Materials, supplies, and equipment to be incorporated into the Work shall be new and unused unless otherwise specifically stated in the Contract. The source of supply for all such products shall be submitted to the County, together with detailed descriptions thereof in the form of samples, shop drawings, tests, or other means necessary to adequately describe the items proposed. Approval by the County of a manufacturer or supplier shall not constitute the approval of materials, supplies, or equipment obtained from such manufacturer or supplier if they do not comply with the requirements of the Contract. If, after trial or installation, it is found that sources of supply, even though previously approved by the County, have not furnished products meeting the intent of the Contract, the Contractor shall thereafter furnish products from other approved sources, and shall remove completed Work incorporating products which do not meet Contract requirements.
- E. The Contractor shall confine operations to areas permitted by law, ordinances, permits and the Contract, and shall not unreasonably encumber the site with materials or equipment. The Contractor shall provide parking for all construction vehicles only within the construction limits as indicated on the drawings or make appropriate arrangements as permitted by law.
- F. Only materials and equipment which are to be used directly in the Work may be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it must be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is the sole responsibility of the Contractor.
- G. The Contractor and any entity for which the Contractor is responsible must not erect any sign on the Project site without the prior written consent of the County, which may be withheld in the sole discretion of the County.
- H. Contractor must ensure that the Work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, and for emergency response to the site of the Work and all adjacent areas. The Work must be

performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work are free from debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any other provision of the Contract, Contractor must use its best efforts to minimize any interference with the occupancy or beneficial use of any areas and buildings adjacent to the site of the Work, or the Project.

- I. Without prior approval of the County, the Contractor shall not permit any worker to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas other than those designated by the County for such use. Without limitation of any other provision of the Contract, the Contractor shall use its best efforts to comply with all rules and regulations promulgated by the County in connection with the use and occupancy of the Project site, as amended from time to time. The Contractor shall immediately notify the County in writing if during the performance of the Work, the Contractor finds compliance with any portion of such rules and regulations to be impracticable, setting forth the problems that may be caused by such compliance and suggesting alternatives through which the results intended by such portions of the rules and regulations can be achieved. The County may, in the County's sole discretion, adopt such suggestions, develop new alternatives or require compliance with the existing requirements of the rules and regulations. The Contractor shall also comply with all insurance requirements applicable to the use and occupancy of the Project site.
- J. Unless otherwise provided in the Contract, Contractor shall provide and maintain a suitable office on the site for its own use and for the use of representatives of the County. Contractor shall furnish sufficient heat, artificial light, ventilation and janitor's service, and shall also provide a table or desk, plan rack and chairs, all for the use of those visiting the job, in addition to such furnishings as he provides for his own use. Temporary offices and other structures shall be located where approved by the County, and shall be removed from the premises upon completion of the Contract or earlier if so directed by the County.
- K. Contractor may be required by the County, at the beginning of Work, to provide, at the Project site, suitable and adequate temporary toilets and enclosure for use of workers on the job, shall maintain same in sanitary condition, and shall remove same at the completion of construction operations and/or when directed by the County. Contractor shall not allow any sanitary nuisances to be committed in or about the site and shall enforce sanitary regulations of local and state health authorities.
- L. The Contractor shall cooperate with the County in any required use of the property and arrange for storage of materials on the Project site in such areas as are mutually agreed upon. The Contractor shall allot suitable and proper space to its Subcontractors for the storing of their materials and for the erection of their sheds and tool houses. Should it be necessary at any time to move materials,

- sheds, or storage platforms, the Contractor shall, at its own expense move same as and when directed by the County.
- M. Unless otherwise instructed by the County, the Contractor shall repair and return to original condition all buildings, streets, curbs, sidewalks, utilities or other facilities affected by the Contractor's performance of the Work. The County's decisions in matters relating to aesthetic effect shall be final if consistent with the intent of the Contract.

GR-32. UTILITIES DURING CONSTRUCTION

Contractor shall furnish all utilities and pay for all bills for utilities used during construction. Utilities shall include electric power, fuel of any sort used for heating, etc., telephone services, cable and internet, if necessary, and water. Contractor shall provide all temporary connections to utilities when not provided by the utility company or others at no additional cost to the County. Contractor shall, if required by the County, install and maintain at his own expense, a job telephone and communications equipment necessary for the execution of the Work for the Contract Time.

GR-33. TEMPORARY HEAT AND AIR CONDITIONING

The Contractor shall provide, at his own expense, temporary heat or air conditioning, as necessary, to protect all Work and materials against injury from heat, dampness or cold. Fuel, equipment and method of heating and cooling shall be satisfactory to the County and shall not present a fire hazard. Contractor shall comply with the requirements in the Specifications for specific temperatures to be maintained.

GR-34. MAINTENANCE MANUAL

Contractor shall, prior to completion of Contract, deliver to the County two (2) copies of a manual, assembled, indexed, and bound, for the County's guidance, full details for care and maintenance of visible surfaces and of equipment included in Contract. Contractor shall, for this manual, obtain from Subcontractors literature of manufacturers relating to equipment, including motors; also furnish cuts, wiring diagrams, instruction sheets and other information pertaining to same that will be useful to the County in over-all operation and maintenance. Where the above-described manuals and data are called for under separate sections of the Specifications, they are to be included in the manual described in this General Requirement.

GR-35. WEATHER CONDITIONS

The Contractor will be required to protect all work and materials against damage or injury from the weather. If, in the opinion of the County, any work or materials shall have been damaged or injured by reason of failure to protect such, all such materials or work shall be removed and replaced at the expense of the Contractor.

GR-36. LINES, GRADES, AND MEASUREMENTS

- A. Such stakes and markings as the County may set for either its or the Contractor's guidance shall be preserved by the Contractor. Failure to protect such stakes or markings may, at the County's discretion, shall result in the Contractor being charged for their replacement.
- B. The Contractor must exercise proper care and caution to verify the grades and figures furnished by or on behalf of the County before proceeding with the Work, and shall be responsible for any damage or defective work caused by its failure to exercise such care and caution. Contractor shall promptly notify the County of any errors or discrepancies it may discover in order that the proper corrections may be made.
- C. Before ordering materials or doing work, the Contractor shall measure and verify the dimensions and locations of all existing structures, substrata, and features that affect the Work and shall be responsible for the correctness of same. No consideration will be given any claim based on the differences between the actual dimensions and those indicated on the Drawings. Contractor shall promptly notify the County of any difference which may be found, and shall obtain direction from the County before proceeding with the affected Work.

GR-37. CLEANING UP

- A. The Contractor shall at all times, keep the premises free from accumulation of waste materials or rubbish caused by Contractor's employees or work. Upon completion of the Work, the Contractor shall remove all his plants, tools, materials, and other articles from the property of the County.
- B. If the Contractor fails to clean up, as provided in the Contract, the County may do so, and the cost thereof shall be charged to the Contractor. Contractor shall ensure that neither it, its Subcontractors, nor their employees or agents bring any hazardous materials or other materials/waste regulated by state, federal or local law, which are not commonly used in the construction process or which are not listed in any Specifications for the Project onto the Project site without first obtaining the County's advance written approval. Contractor agrees to ensure that any hazardous materials/waste or other materials/waste regulated by state, federal or local law that Contractor, its Subcontractors or their employees or agents, bring onto or generate at the Project Site are handled in accordance with all applicable laws.
- C. The Contractor shall pay all required material disposal fees and shall dispose of all materials in accordance with all applicable laws and regulations. The Contractor shall be responsible for all costs associated with improper disposal of materials, including any clean-up costs, fines or penalties, whether levied against the Contractor or the County.

- D. In addition to removing rubbish on a periodic basis and leaving the building broom clean, the Contractor shall clean all tile and glass; replace broken glass; remove stains, paint spots, and dirt from all Work; clean and polish all plumbing fixtures and equipment; and remove all temporary protection items. To the maximum extent reasonably possible, the Contractor shall keep the interior of the building free of combustible materials as the Work progresses.
- E. The Contractor shall maintain and keep clean at all times the immediate approach to the Project site, including the roads abutting the Project site.

GR-38. BARRICADES

- A. Contractor shall provide barricades and protective barriers around excavations, so that the public is adequately warned of such hazards. Lanterns shall remain lighted from sundown to sunrise and at all other times when the labor forces are not on the job site.
- B. Delivery of construction materials and equipment shall be only to locations approved by the County.

GR-39. NO THIRD-PARTY BENEFICIARY

Except as expressly and specifically set forth herein, this Contract shall not be deemed to provide any third-party with any remedy, claim, right of action, or other right.

GR-40. SEVERABILITY

If any provision of this Contract or the application thereof to any person or circumstance shall to any extent be held invalid, then the remainder of this Contract or the application of such provision to persons or circumstances, other than those as to which it is held invalid, shall not be affected thereby, and each provision of this Contract shall be valid and enforced to the fullest extent permitted by law.

GR-41. INTERPRETATION

The laws of the State of Georgia shall govern the construction of this Contract without regard for conflicts of laws. Should any provision of this Contract require judicial interpretation, it is agreed that the court interpreting or construing the same shall not apply a presumption that the terms hereof shall be more strictly construed against one party, by reason of the rule of construction, that a document is to be construed more strictly against the party who itself or through its agent prepared same; it being agreed that the agents of all parties have participated in the preparation hereof, and all parties have had an adequate opportunity to consult with legal counsel. In interpreting this Contract in its entirety, the printed provisions of this Contract, and any additions written or typed hereon, shall be given equal weight, and there shall be no

inference by operation of law or otherwise; that any provision of this Contract shall be construed against either party hereto.

GR-42. PRIOR CONTRACTS; CONFLICT IN DOCUMENTS

The Contractor may in no case claim a waiver of any specification requirements on the basis of previous approval of material or workmanship on other jobs of like nature or on the basis of what might be considered "standard" for material or workmanship in any particular location. The Contract for this Project shall govern the Work. If any portion of the Contract shall be in conflict with any other portion, the various documents comprising the Contract shall govern in the following order of precedence: Contract, Change Orders or modifications issued after execution of the Contract; the General Requirements of the Contract; the Specifications; the Drawings, as between schedules and information given on the Drawings, the schedules shall govern; as between figures given on Drawings and the scaled measurements, the figures shall govern; as between large-scale Drawings and small-scale Drawings, the larger scale shall govern; and detailed Drawings shall govern over general Drawings; and the Bid Document Package.

GR-43. ENTIRE AGREEMENT

This Contract constitutes the sole contract between the County and the Contractor. The terms, conditions, and requirements of this Contract may not be modified, except by Change Order or Field Order. No verbal agreement or conversation with any officer, agent, or employee of the County, either before or after the execution of the Contract, shall affect or modify any of the terms or obligations herein contained. No representations, oral or written, shall be binding on the parties unless expressly incorporated herein. No Change Order or Field Order shall be enforceable unless approved by official action of the County as provided by law or in this Contract.

GR-44. COUNTERPARTS

This Contract may be executed in several counterparts, each of which shall be deemed an original, and all such counterparts together shall constitute one and the same Contract.

GR-45. VENUE

The courts of DeKalb County, Georgia shall have exclusive jurisdiction to try disputes arising under or by virtue of this Contract.

GR-46. RIGHT TO AUDIT

The County shall have the right to audit all books and records, including electronic records, relating or pertaining to this contract or agreement, including but not limited to all financial and performance related records, property, and equipment purchased in whole or in part with County funds and any documents or materials which support those records, kept under the control of the Contractor, including but not limited to those kept by the Contractor's employees, agents, assigns, successors and subcontractors. The County also has the right to communicate

with Contractor's employees related to the audited records.

The Contractor shall maintain such books and records, together with such supporting or underlying documents and materials, for the duration of this contract and for seven (7) years after termination or expiration, including any and all renewals thereof. The books and records, together with supporting documents and materials shall be made available, upon request to the County or its designee, during normal business hours at the Contractor's office or place of business. In the event that no such location is available, then the books, records, and supporting documents shall be made available for audit at a time and location which is convenient for the County.



ATTACHMENT B

Contractor Affidavit under O.C.G.A. §13-10-91

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 engaged in the physical performance of services on behalf of DEKALB COUNTY has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. §13-10-91. Furthermore, the undersigned Contractor will continue to use the federal work authorization program throughout the Contract Term and the undersigned Contractor will contract for the physical performance of services in satisfaction of such contract only with Subcontractors who present an affidavit to the Contractor with the information required by O.C.G.A. §13-10-91. Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization User Identification	Number	
Date of Authorization		
Name of Contractor		
Name of Project		
Name of Public Employer		
I hereby declare under penalty of perjury that the	e foregoing is	true and correct.
Executed on, 20in	(city),	(state).
By:		
Signature of Authorized Officer or Agent		
Printed Name and Title of Authorized Officer of	r Agent	
Subscribed and Sworn before m on this the day of, 20		
NOTARY PUBLIC		
My Commission Expires:		

ATTACHMENT C

Subcontractor Affidavit under O.C.G.A. § 13-10-91

By executing this affidavit, the undersigned Subcontractor verifies its compliance with O.C.G.A.
§ 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the
physical performance of services under a contract with(insert name of
Contractor) on behalf of DEKALB COUNTY, GEORGIA has registered with, is authorized to use and
uses the federal work authorization program commonly known as E-Verify, or any subsequent
replacement program, in accordance with the applicable provisions and deadlines established in
O.C.G.A. § 13-10-91. Furthermore, the undersigned Subcontractor will continue to use the federal work
authorization program throughout the contract period and the undersigned subcontractor will contract
for the physical performance of services in satisfaction of such contract only with sub-subcontractors
who present an affidavit to the Subcontractor with the information required by O.C.G.A. § 13-10-91.
Additionally, the undersigned Subcontractor will forward notice of the receipt of an affidavit from a
sub-subcontractor to the Contractor within five business days of receipt. If the undersigned
Subcontractor receives notice that a sub-subcontractor has received an affidavit from any other
contracted sub-subcontractor, the undersigned Subcontractor must forward, within five business days of
receipt, a copy of the notice to the Contractor. Subcontractor hereby attests that its federal work
authorization user identification number and date of authorization are as follows:
authorization user identification number and date of authorization are as follows.
Federal Work Authorization User Identification Number
rederar work Authorization Osci identification (vulnoci
Date of Authorization
Date of Authorization
Name of Subcontractor
Name of Subcontractor
N CD : 1
Name of Project
W CD III F 1
Name of Public Employer
I hamshy dealess and a manulty of manipus that the foresteins is two and compat
I hereby declare under penalty of perjury that the foregoing is true and correct.
Executed on
Executed on, 20 in(city),(state).
By:
Signature of Authorized Officer or Agent
Printed Name and Title of Authorized Officer or Agent
Subscribed and Sworn before me on this the
day of, 20
NOTARY PUBLIC

My Commission Expires:

ATTACHMENT D

Sub-subcontractor Affidavit under O.C.G.A. § 13-10-91

By executing this affidavit, the undersigned sub-subcontractor verifies its compliance with
O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged
in the physical performance of services under a contract for (name
of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract)
and (name of Contractor) on behalf of DEKALB COUNTY,
GEORGIA has registered with, is authorized to use and uses the federal work authorization
program commonly known as E-Verify, or any subsequent replacement program, in accordance
with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the
undersigned sub-subcontractor will continue to use the federal work authorization program
throughout the contract period and the undersigned sub-subcontractor will contract for the physical
performance of services in satisfaction of such contract only with sub-subcontractors who present
an affidavit to the sub-subcontractor with the information required by O.C.G.A. § 13-10-91(b). The
undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to
sub-subcontractor has privity of contract). Additionally, the undersigned sub-subcontractor will
forward notice of the receipt of any affidavit from a sub-subcontractor to
(name of Subcontractor or sub-subcontractor with whom such sub-
subcontractor has privity of contract). Sub-subcontractor hereby attests that its federal work
authorization user identification number and date of authorization are as follows:
Federal Work Authorization User Identification Number
Date of Authorization
Name of Sub-subcontractor
Name of Project
Name of Public Employer
I hereby declare under penalty of perjury that the foregoing is true and correct.
Executed on, 20 in(city),(state).
By:
Signature of Authorized Officer or Agent
Printed Name and Title of Authorized Officer or Agent
Finited Name and True of Authorized Officer of Agent
Subscribed and Sworn before me on this the
day of, 20
,
NOTARY PUBLIC
My Commission Expires:

ATTACHMENT E

DEKALB COUNTY, GEORGIA CERTIFICATE OF CORPORATE AUTHORITY (Choose Applicable Certificate)

I,, certify as Contractor herein, same being organized and inc	y that I am Secretary of the corporation named
as Contractor herein, same being organized and inc	corporated to do business under the laws of the
State of; that	, who executed this Contract on behalf
of the Contractor was, then and there,	; and that said Contract was duly
signed by said officer for and in behalf of said	corporation, pursuant to the authority of its
governing body and within the scope of its corpora	
	es of the owners of all the outstanding stock of
said corporation as of this date are as follows:	of the owners of the the outstanding stock of
said corporation as of this date are as follows.	
	. 0.
This day of	·
	(Corporate Seal)
	Secretary

ATTACHMENT E

DEKALB COUNTY, GEORGIA CERTIFICATE OF AUTHORITY – JOINT VENTURE

(Separate Certificate to be submitted by each joint venture partner)

I,		, ⁽¹⁾ certify	that
1		I am the(2) of	, ⁽³⁾ (hereinafter "Venturer");
2	•		t in the joint venture named as Contractor in that ed with DeKalb County, issued pursuant to osal No;
3		•	ated to do business under the laws of the State of
4		; , who e	executed this Contract on behalf of the Contractor
		was, then and there,	
5	•		id officer for and in behalf of said Venturer and the of the governing body of each and within the scope
6		I further certify that the names and ad ownership interest in Venturer as of the	Idresses of the owners of all the outstanding stock or his date are as follows:
This	_	day of	
N ICE		UCIDIONG.	
INST'	K I	ICTIONS.	

- Name of secretary (if Venturer is a corporation), or Manager or CEO (if Venturer is a LLP) of 1. Venturer.
- Title of person executing Certification. 2.
- Name of joint venture partner. 3.

MAKE COPIES OF THIS FORM AND SUBMIT A SEPARATE FORM FOR EACH JOINT VENTURE PARTNER.

ATTACHMENT F

(Consisting of 3 pages)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that

name of contractor] (hereinafter called the "Principal") and	[Insert name
of surety] (hereinafter called the "Surety"), are held and firmly bound unto	
County (hereinafter called the "County") and their successors and assigns, in the	ne penal sum of
	money of the
United States of America, for the payment of which the Principal and the	he Surety bind
themselves, their administrators, executors, successors, and assigns, jointly and s	severally, firmly
by these presents.	
WHEREAS, the Principal has entered, or is about to enter, into a certain	written contract
with the County, awarded by the DeKalb County Governing Authority on	,
which is incorporated herein by reference in its entirety (hereinafter called the	"Contract"), for
the [insert Name of the	e Project], more
particularly described in the Contract (hereinafter called the "Project"); and	

NOW, THEREFORE, the conditions of this obligation are as follows, that if the Principal shall fully and completely perform all the undertakings, covenants, terms, conditions, warranties, and guarantees contained in the Contract, including all change orders, modifications, amendments, changes, deletions, additions, and alterations thereto that may hereafter be made, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Whenever the Principal shall be, and declared by the County to be, in default under the Contract, the Surety shall promptly remedy the default as follows:

- 1. Complete the Contract in accordance with the terms and conditions; or
- 2. Obtain a Bid or Bids for completing the Contract in accordance with its terms and conditions, and upon determination by the Surety and the County of the lowest responsible bidder, arrange for a contract between such bidder and County and make available as the work progresses (even though there should be a default or succession of defaults under the Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the penal sum set forth in the first paragraph hereof, as may be adjusted, and the Surety shall make available and pay to the County the funds required by this Paragraph prior to the payment of the County of the balance of the contract price, or any portion thereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the County to the Contractor under the Contract, and any amendments thereto, less the amount paid by the County to the Contractor; or, at the option of the County; or

[Insert

3. Allow County to complete the work and reimburse the County for all reasonable costs incurred in completing the work.

In addition to performing as required in the above paragraphs, the Surety shall indemnify and hold harmless the County from any and all losses, liability and damages, claims, judgments, liens, costs, and fees of every description, including reasonable attorney's fees, litigation costs and expert witness fees, which the County may incur, sustain, or suffer by reason of the failure or default on the part of the Principal in the performance of any or all of the terms, provisions, and requirements of the Contract, including any and all amendments and modifications thereto, or incurred by the County in making good any such failure to performance on the part of the Principal.

The Surety shall commence performance of its obligations and undertakings under this Bond promptly and without delay, after written notice from the County to the Surety.

The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and any other amendments in or about the Contract, and agrees that the obligations undertaken by this bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alterations, extensions of time, change in payment terms, and amendments.

The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment to the Contract, so as to bind the Principal and Surety to the full and faithful performance of the Contract as so amended or modified, and so as to increase the penal sum to the adjusted Contract Price of the Contract.

The Surety's obligations under this bond include all of the Contractor's duties under the Contract, including without limitation its maintenance and guarantee obligations.

No right of action shall accrue on this bond to or for the use of any person, entity, or corporation other than the County and any other obligee named herein, or their executors, administrators, successors or assigns.

This Bond is intended to comply with O.C.G.A. §36-91-70, and shall be interpreted so as to comply with the minimum requirements thereof. However, in the event the express language of this Bond extends protection to the County beyond that contemplated by O.C.G.A. §36-91-70, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the County, whether or not such protection is found in the applicable statutes.

If any one or more of the provisions of this Bond are determined to be illegal or unenforceable by a court of competent jurisdiction, all other provisions shall remain effective.

IN	WITNESS	WHEREOF the	undersigne	d have	caused	this	instrumen	t to	be	executed	and
thei	r respective	corporate seals to	be affixed a	and atte	ested by	their	duly auth	orize	ed r	epresenta	tives
this	day of	f	, 20								

PRINCIPAL		
By:	(SEAL))
By: Signature of Prin	ncipal	
Print Name and Titl	le of Authorized Signer	-
Print Name of Princ	eipal Business	_
ATTEST:		
Corporate Secretary	,	
SURETY		
By:	(SEAI	.)
Signature of Sure	ety (by Power of Attorney)	
Print Name and Titl	e of Authorized Signer	
Print Name of Suret	ty Business	
WITNESS:		

[Attach Original Power of Attorney]

ATTACHMENT G

(Consisting of 2 pages)

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that [Insert name of
contractor] (hereinafter called the "Principal") and [Insert name of surety]
(hereinafter called the "Surety"), are held and firmly bound unto County,
(hereinafter called the "County"), its successors and assigns as obligee, in the penal sum of [Insert
contract amount], lawful money of the United States of America, for the payment of which the Principal
and the Surety bind themselves, their administrators, executors, successors, and assigns, jointly and
severally, firmly by these presents.
WHEREAS , the Principal has entered, or is about to enter, into a certain written contract with the
County, awarded by the DeKalb County Governing Authority on[insert date of award]
which is incorporated herein by reference in its entirety (hereinafter called the "Contract"), for the
construction of a project known as [insert name of project], as more particularly described in the Contract

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to all persons working on or supplying labor or materials under the Contract, and any amendments thereto, with regard to labor or materials furnished and used in the Project, and with regard to labor or materials furnished but not so used, then this obligation shall be void; but otherwise it shall remain in full force and effect.

(hereinafter called the "Project");

- 4. A "Claimant" shall be defined herein as any Subcontractor, person, party, partnership, corporation or other entity furnishing labor, services, or materials used, or reasonably required for use, in the performance of the Contract, without regard to whether such labor, services, or materials were sold, leased, or rented, and without regard to whether such Claimant is or is not in privity of contract with the Principal or any Subcontractor performing work on the Project, including, but not limited to, the following labor, services, or materials: water, gas, power, light, heat, oil, gasoline, telephone service, or rental of equipment directly applicable to the Contract.
- 5. In the event a Claimant files a claim against the County, or the property of the County, and the Principal fails or refuses to satisfy or discharge it promptly, the Surety shall satisfy or discharge the claim promptly upon written notice from the County, either by bond or as otherwise provided in the Contract.
- 6. The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and any other amendments in or about the Contract and agrees that the obligations undertaken by this bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alternations, extensions of time, changes in payment terms, and amendments.
- 7. The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment or modification to the Contract, so as to bind the Principal and Surety, jointly and severally, to the full payment of any Claimant under the Contract, as amended or modified, provided only that the Surety shall not be liable for more than the penal sum of the Bond, as specified in the first paragraph hereof.

- 8. This Bond is made for the use and benefit of all persons, firms, and corporations who or which may furnish any materials or perform any labor for or on account of the construction to be performed or supplied under the Contract, and any amendments thereto, and they and each of them may sue hereon.
- 9. No action may be maintained on this Bond after one (1) year from the date the last services, labor, or materials were provided under the Contract by the Claimant prosecuting said action.
- 10. This Bond is intended to comply with O.C.G.A. §36-91-90, and shall be interpreted so as to comply with the minimum requirements thereof. However, in the event the express language of this Bond extends protection to the County beyond that contemplated by O.C.G.A. §36-91-90, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the County, whether or not such protection is found in the applicable statutes.

IN WITNESS WHEREOF, the Principal and Surety have hereunto affixed their corpora and caused this obligation to be signed by their duly authorized representatives this	
PRINCIPAL	
By:(SEAL) Signature of Principal	
Print Name and Title of Authorized Signer	
Print Name of Principal Business	
ATTEST:	
Corporate Secretary SURETY	
By:(SEAL)	
Signature of Surety (by Power of Attorney)	
Print Name and Title of Authorized Signer	
Print Name of Surety Business	
WITNESS:	

[Attach Original Power of Attorney]

ATTACHMENT H

COPIES OF REQUIRED INSURANCE POLICIES WITH DECLARATIONS PAGE (S)



ATTACHMENT I

PROPOSER'S COST PROPOSAL



ATTACHMENT J

THE COUNTY'S REQUEST FOR PROPOSALS (RFP) NO. 18-500478



ATTACHMENT K

"EXCERPTS FROM THE CONTRACTOR'S RESPONSE TO THE COUNTY'S REQUEST FOR PROPOSALS (RFP) NO. 18-500478"

