

SHELBY COUNTY GOVERNMENT

SHELBY COUNTY OFFICE BUILDING 616 ADAMS AVENUE MEMPHIS, TN 38105

ELEVATOR #4 MODERNIZATION

RFP #15-007-01

01 JUL 14

PROJECT MANUAL



1209 DOVECREST ROAD MEMPHIS, TN 38134-7625

INDEX TO PROJECT MANUAL

DIVISION 00 - CONTRACT REQUIREMENTS

Section Index, 2 Pages Request for Proposal, 25 pages. Proposal, 00300, 3 pages. Shelby County Bid Bond, AIA Document A310, 1 page. Shelby County Performance Bond, AIA Document A311, 2 pages. Shelby County Labor / Materials Bond, AIA Document A311, 3 pages. Shelby County General Conditions of the Contract for Construction, 46 pages. Shelby County - Contractor Agreement, 18 pages

DIVISION 01 - GENERAL REQUIREMENTS

Section 01010 - Summary of Work 01045 - Cutting and Patching 01300 - Submittals 01600 - Materials and Equipment 01700 - Contract Closeout

DIVISION 05 - METALS

Section 05500 - Metal Fabrications

DIVISION 09 - FINISHES

Section 09000 - Finish Schedule 09900 - Painting

DIVISION 14 - CONVEYING SYSTEMS

Section 14240 - Hydraulic Elevator (Elevator #4)

DIVISION 15 - MECHANICAL

- Section 15010 Basic Mechanical Requirements
 - 15140 Supports and Anchors
 - 15190 Mechanical Identification
 - 15260 Insulation
 - 15410 Plumbing Piping
 - 15620 Forced Air DX Split Systems
 - 15890 Ductwork
 - 15910 Ductwork Accessories
 - 15936 Air Outlets and Inlets

DIVISION 16 - ELECTRICAL

Section

- 16010 General Provisions 16110 - Raceways
 - 16110 Raceways
 - 16121 Conductors
 - 16130 Outlet, Pull, and Junction Boxes 16140 - Wiring Devices
 - 16170 Safety Switches
 - 16190 Supporting Devices and Hangers
 - 16450 Grounding
 - 16510 Lighting and Lamps

END OF INDEX



Shelby County

Tennessee

Mark H. Luttrell, Jr., Mayor

Shelby County Government

Purchasing Department

160 N. Main, Suite 900 Memphis, TN 38103

Issued: July 15, 2014

Due: August 8, 2014, 2014 at 4:00 PM (Central Standard Time)

RFP # 15-007-01

ELEVATOR MODERNIZATION SHELBY COUNTY JUVENILE COURT 616 ADAMS AVENUE

Shelby County Government is soliciting proposals for the provision of Construction Services to provide Elevator Modernization, Shelby County Juvenile Court, 616 Adams Avenue., Memphis, Tennessee 38105. The Request For Proposals is located on the County's website at www.shelbycountytn.gov and click the link "Department" at the top, then P for the Purchasing Department, then click on the link "Bids". Bidders are required to download the information for submittal.

A voluntary pre-bid conference will be held Friday, July 25, 2014 at 9:30 p.m. at Shelby County Juvenile Court, Room 307, 616 Adams Avenue, Memphis, Tennessee 38105.

Proposals must be received in the office of the Administrator of Purchasing <u>no later than August 8</u> <u>2014 at 4:00 p.m.</u> Proposals should be addressed to:

Nelson Fowler, Manager A Shelby County Government 160 N. Main, Rm. 900 Memphis, TN 38103

The package containing an original (clearly identified as original) and four (4) copies must be sealed and marked with the Bidders name and CONFIDENTIAL, "ELEVATOR MODERNIZATION, SHELBY COUNTY JUVENILE COURT, RFP # 15-007-03" noted on the outside.

Sincerely,

Nelson Fowler, Manager A Purchasing Department, Shelby County Government

I. INTRODUCTION

Shelby County Government (the "County"), is seeking proposals from interested and qualified firms for Elevator Modernization, Shelby County Juvenile Court, 616 Adams Avenue, Memphis, Tennessee 38105. This Request for Proposal is being released to invite interested and qualified firms to prepare and submit proposals in accordance with instructions provided where the successful candidate will be selected and invited to enter into a contractual relationship with Shelby County for the Services outlined in this RFP. document.

II. MINIMUM PROPOSER REQUIREMENTS

All bidders must:

- 1. <u>Prime</u> and <u>LOSB</u> contractors must <u>apply</u> and <u>qualify</u> for an Equal Opportunity Compliance (EOC) certification number through our EOC Administration **prior to submitting your response**.
- 2. Firms located within the boundaries of Shelby County are required to have a current Shelby County Business License or be considered exempt from the license requirement by the Shelby County Clerks Office.
- 3. Meet all other requirements for the performance such as LOSB and performance requirements for Services in accordance with the provisions of this Sealed Bid.
- 4. Must submit a Bid Bond in the amount of 5% of their bid. This bond must be submitted with your bid.
- 5. The successful contractor must be able to submit a performance/labor material bond separate bonds each in the amount of 100% of the amount of the contract.
- 6. Must submit LOSB Form B and A with their bid. Please see page 23, item L for documents to be submitted with your bid.
- 7. Have all appropriate licenses and certifications required in the State of Tennessee to perform the Services.
- 8. A written statement of compliance to Title VI must be submitted in your bid response. Please see item "**H**" for Title VI.
- Independent contractors (sole proprietors) must adhere to State of Tennessee Public Chapter No. 436, know as the "Tennessee Lawful Employment Act (effective date of 1/1/2012). Proof and documentation of employment eligibility must be included with the proposal.

III. CORRESPONDENCE

All correspondence, proposals, and questions concerning the Request For Proposal are to be submitted to:

Nelson Fowler, Manager A Shelby County Government 160 N. Main St. Suite 900 Memphis, TN 38103 (901) 222-2250

Respondents requesting additional information or clarification are to contact Nelson Fowler in writing at <u>nelson.fowler@shelbycountytn.gov</u> or at the address listed above. Questions should reference the section of the REQUEST FOR PROPOSAL to which the question pertains and all contact information for the person submitting the questions. *IN ORDER TO PREVENT AN UNFAIR ADVANTAGE TO ANY RESPONDENT, VERBAL QUESTIONS WILL NOT BE ANSWERED*. <u>The deadline for submitting questions will be Friday, August 1, 2014</u> @ 12:00 <u>p.m.</u>

Note: All written questions submitted by the deadline indicated above will be answered and posted on the County's website at <u>www.shelbycountytn.gov</u> within forty eight (48) hours of the above cut-off date.

These guidelines for communication have been established to ensure a fair and equitable process for all respondents. Please be aware that contact with any other personnel (other than the person clearly identified in this document) within Shelby County or its benefit administrators regarding this Sealed Bid may disqualify your company from further consideration.

Vendor Number (Purchasing Department)

At the top of the home page, click on the links "Department", "P" for the Purchasing Department and "Conducting Business with Shelby County". The "Vendor Registration" link is at the bottom of the drop down box. Please download the application instructions and read thoroughly prior to accessing the application. (*Applications for a vendor number are accepted online only.*)

Equal Opportunity Compliance (EOC) Number (EOC Administration Office)

At the top of the home page, click on the links "Department", "E" for the Equal Opportunity Compliance and "Contract Compliance Program". The "Contract Compliance Packet" link is in the middle of the page. Please print the packet and mail or fax the completed packet to the EOC office. The mailing address is 160 N. Main Street, Suite 200, Memphis, TN 38103. The fax number is 901-222-1101.

Note: Because of the length of time it takes to apply and receive an EOC number, vendors who apply prior to the RFP being due, bid will be accepted pending EOC approval of their application.

If you have any questions regarding the application, you may contact Purchasing at (901)222-2250 or the EOC Administration at (901) 222-1100.

IV. PROPOSAL SUBMISSION DEADLINE

All proposals must be received at the address listed above no later than <u>Friday, August 8, 2014 @</u> <u>4:00 PM. (CST)</u>. Facsimile or electronically transmitted proposals will not be accepted since they do not contain original signatures. Postmarks will not be accepted in lieu of actual receipt. Late or incomplete proposals may not be opened and considered.

V. PROPOSAL TIMELINE

Shelby County reserves the right to modify this timeline at any time. If the due date for proposals is changed, all prospective Bidders shall be notified.

Request For Proposal Released Pre-Bid Conference Deadline for Questions Proposal Due Date Notification of Award Wednesday, July 16, 2014 Friday, July 25, 2014 at 9:30 pm. Friday, August 1, 2014 at 12:00 p.m. Friday, August 8, 2014 at 4:00 p.m. September 2014

The County may reproduce any of the Bidders proposal and supporting documents for internal use or for any other purpose required by law.

VI. PROPOSAL CONDITIONS

A. Contingencies

This RFP does not commit the County to award a contract. The County reserves the right to accept or reject any or all proposals if the County determines it is in the best interest of the County to do so. The County will notify all Bidders, in writing, if the County rejects all proposals.

B. Modifications

The County reserves the right to issue addenda or amendments to this RFP.

C. Proposal Submission

To be considered, all proposals must be submitted in the manner set forth in this RFP. It is the Bidders responsibility to ensure that its proposals arrive on or before the specified time.

D. Incurred Costs

This RFP does not commit the County to pay any costs incurred in the preparation of a proposal in response to this RFP and Bidders agree that all costs incurred in developing this RFP are the Bidders responsibility.

E. Final Authority

The final authority to award a contract rests solely with the Shelby County Purchasing Department.

F. Proposal Validity

Proposals submitted hereunder will be firm for one hundred twenty (120) calendar days from the due date unless otherwise qualified.

G. Disclosure of Proposal Contents

Proposer understands and acknowledges that the County is a governmental entity subject to the laws of the State of Tennessee and that any reports, data or other information supplied to the County is subject to being disclosed as a public record in accordance with the laws of the State of Tennessee. All proposals and other materials submitted become the property of Shelby County Government.

H. Non-discrimination and Title VI

The contractor hereby agrees, warrants, and assures compliance with the provisions of Title VI and VII of the Civil Rights Act of 1964 and all other federal statutory laws which provide in whole or in part that no person shall be excluded from participation or be denied benefits of or be otherwise subjected to discrimination in the performance of this Contract or in the employment practices of the contractor on the grounds of handicap and/or disability, age, race, color, religion, sex, national origin, or any other classification protected by federal, Tennessee State Constitutional or statutory law. The contractor shall upon request show proof of such non-discrimination and shall post in conspicuous places available to all employees and applicants notices of non-discrimination.

Any recipient entity shall be subject to the requirements of Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d et seq., and regulations promulgated pursuant thereto. It shall develop a Title VI implementation plan with participation by protected beneficiaries as may be required by such law or regulations. To the extent applicable, such plan shall include Title VI implementation plans sub-recipients of federal funds through the entity. The contractor shall produce the plan upon request of Shelby County Government. Failure to provide same shall constitute a material breach of contract.

I. LOSB

SHELBY COUNTY GOVERNMENT LOCALLY OWNED SMALL BUSINESS (LOSB) PROGRAM FOR CONSTRUCTION SERVICES

General

Shelby County Government is committed to a policy of non-discrimination pursuant to the Equal Protection provisions of the United States Constitution. It is further the policy of Shelby County that it's purchasing and contracting practices encourage the use of Locally-Owned Small Businesses (LOSB's) in all solicitations. In furtherance of these policy objectives, Shelby County seeks to afford all citizens equal opportunities to do business on county contracts and to ensure that all bidders, or Contractors doing business with Shelby County provide to LOSB's, maximum practicable opportunities, commensurate with availability, price and capabilities required, to participate on contracts which are paid for, in whole or in part, with monetary appropriations from Shelby County.

Shelby County seeks to prevent discrimination against any person or business in pursuit of these opportunities on the basis of race or gender. Shelby County will conduct its contracting and purchasing programs to discourage any discrimination and will actively seek to resolve all claims of discrimination brought against Shelby County or any Contractors involved in such contracting and purchasing programs.

Shelby County has determined that 10% of the contract sum will be contracted with LOSB vendors. For assistance and information regarding LOSB participation, Bidders shall contact:

Ms. Carolyn Griffin Office of Equal Opportunity Compliance Board of Commissioners of Shelby County 160 North Main Street, Suite 200 Memphis, Tennessee 38103 Phone: 901-222-1100 Fax: 901-222-1101 E-mail: Carolyn.Griffin@shelbycountytn.gov

Definitions

The definitions used in this document are as follows:

- 1. **"Bidder"** means any person, firm, partnership, association, or joint venture seeking to be awarded a contract or subcontract to provide goods, commodities, or services.
- 2. "Certification" or "Certified" means a Business that is certified by Shelby County Government under the LOSB program.
- 3. **"Commercially useful function"** means being responsible for the management and performance of a distinct element of the total work.
- 4. "Contractor" shall mean any person or business enterprise that submits a bid or proposal to provide labor, goods, or services to Shelby County by contract for profit in the area of construction or construction-related activities; and, any person or firm who supplies or provides labor, goods, or services to Shelby County by contract for profit.
- 5. **"Efforts to Achieve LOSB Participation"** means that the Contractor will solicit LOSB Participation with respect to the procurement and will consider all sub-bids and quotations received from LOSB's. When a subcontract is not awarded to the LOSB, the Contractor must document the reason(s) the award was not made and substantiate that documentation in writing pursuant to the provisions of this Program.
- 6. **"Locally Owned Small Business (LOSB)"** means a business whose home office is located in Shelby County, with average annual sales of 5,000,000 or less over the past three (3) years and who has been certified by Shelby County Office of Equal Opportunity Compliance.
- 7. "Non-LOSB" means a business, which is not certified as a LOSB.
- 8. **"Unavailable"** means either that: (1) there is no LOSB providing goods or services requested; or, (2) no LOSB submitted a bid.

Requirements and Compliance

All firms or entities seeking to become Contractors as outlined herein are required to make good faith efforts to achieve LOSB participation when submitting a proposal or bidding on Shelby County procurements. Bidders shall not discriminate on the basis of race or gender when soliciting bids in the performance of Shelby County's procurements. Discrimination complaints brought to the attention of Shelby County Office of Equal Opportunity Compliance (or its designee) will be reviewed and investigated to the extent necessary to determine the validity of such complaints and what actions, if any, should be taken by Shelby County.

Policies and Procedures

Shelby County may adopt policies and procedures as necessary to carry out and implement its powers and duties with regard to the LOSB Program. It is the goal of Shelby County to encourage participation by LOSB's and to adopt rules and regulations which achieve to the greatest extent possible a level of participation by LOSB's taking into account the total number of all Contractors and suppliers. Therefore, Shelby County will review each procurement request to determine the maximum potential for utilization of LOSB's. This review is based on the availability of qualified LOSB's providing goods or services as it relates to the scope of the bid or procurement process. The following procedures may be utilized during the procurement process.

- 1. **Pre-Bid Activity**
 - a. Bid Language

Shelby County may insert language into each bid specification describing the LOSB Program to assure that all prospective bidders are aware of the requirements to make efforts to utilize LOSB's.

b. Notification

Shelby County may provide written notification to Contractors and LOSB's regarding pre-bid conferences; technical assistance to LOSB's; LOSB Program procedures and required documentation; and, provide a list of LOSB's who have expressed an interest in competing for the bid or in performing as a subcontractor.

2. Contractor's Responsibilities

a. Efforts to Achieve LOSB Participation

All entities seeking to become Contractors are required to make efforts to achieve maximum LOSB participation, as outlined in this LOSB Program, when submitting a response to a bid or negotiated proposal in response to a Shelby County procurement opportunity. Such Efforts should be documented on **LOSB Form "A."** and submitted with your bid.

b. Utilization

Contractors are required to utilize legitimate LOSB's in order to receive credit for the utilization of a LOSB. Contractors must document all LOSB's to be utilized, the percentage of utilization and the intended scope of work. Such information should be submitted on **LOSB Form "B."** This documentation must be submitted with the bid or negotiated proposal document.

c. Commercially Useful Functions

All LOSB's identified on **LOSB Form "C"** or **LOSB Form "D"** shall perform a Commercially Useful Function.

d. Unavailability

If a potential Contractor's efforts to obtain LOSB participation are unsuccessful due to the unavailability of a LOSB, the Contractor will submit a statement of unavailability. **LOSB Form "A**."

e. Pre-Work Conference

Any Contractor who is the successful bidder shall be required to attend a conference with Shelby County prior to beginning the work. The primary purpose of this conference is to review the project scope and review LOSB participation as outlined in <u>LOSB Form "B."</u> Shelby County will also review the Statement of Intent to Perform as a Subcontractor or Provide Supplies or Services as documented on <u>LOSB Form "C."</u>

f. Post-Award Change

Any Contractor who determines that a LOSB identified on <u>LOSB Form "B"</u> cannot perform shall request approval from Shelby County to contract with an alternate subcontractor pursuant to this LOSB Program. Such request will be reviewed and approved only after adequate documentation for the proposed change is presented.

g. LOSB Certification

Each month the Contractor shall submit **LOSB Form "D"** certifying all payments made to LOSB's.

3. LOSB Responsibilities

- a. Commercially Useful Function
 - It is the responsibility of each LOSB providing subcontracted goods and/or services to submit **LOSB Form "C"** certifying that it is performing the work and that it is a Commercially Useful Function.

Written Agreement

Shelby County policies and procedures on LOSB participation are designed to create contractual relationships between Contractors and LOSB's. Therefore, a Contractor may utilize the services of a LOSB in estimating and satisfying the scope of work, provided that a written contract/agreement is executed between the Contractor and the LOSB.

Certification

To ensure that the ownership and control over decision-making and day-to-day operations of a Certified LOSB is legitimate, Shelby County reserves the right to verify the ownership and control of each LOSB utilized.

Monitoring LOSB Utilization

Shelby County intends to monitor and enforce this LOSB Program. Shelby County reserves the right to conduct random audits of each of its Contractor's/ LOSB's. Shelby County reserves the right to reevaluate a LOSB's certification at any time.

Efforts to Achieve LOSB Participation

The Contractor shall consider all bids and/or quotations received from LOSB's. When a subcontract is not awarded by a Contractor to any of the competing LOSB's, the Contractor must document the reason(s) the award was not made to the LOSB's. It is the responsibility of the Contractor to prove that it employed Efforts to Achieve LOSB participation. Evidence supporting the Contractor's Efforts must be documented on **LOSB Form "A,"** which must include, but is not limited to, the following:

- 1. Contractor must submit proof that it solicited LOSB participation through reasonable and available means including, but not limited to:
 - a. Written notices to LOSB's who have the capability to perform the work of the contract or provide the service;
 - b. Direct mailing, electronic mailing, facsimile or telephone requests.
- 2. Contractor must submit proof that it provided interested LOSB's with adequate information about plans, requirements and specifications of the contract in a timely manner to assist them in responding to a solicitation.
- 3. Contractor must submit proof that it made Efforts to Achieve LOSB Participation including, but not limited to, proof that it made opportunities available to LOSB suppliers and identified opportunities commensurate with opportunities made available and identified to Non LOSB's. Such proof will includes the names of businesses, contact person(s),

addresses, telephone numbers, and, a description of the specifications for the work selected for subcontracting.

- 4. Contractor must submit proof that it allowed LOSB's the opportunity to review bid specifications, blue prints and all other bid related items at no charge. The Contractor must allow sufficient time for review prior to the bid deadline.
- 5. Contractor must submit proof that it made Efforts to Achieve LOSB Participation by not rejecting a LOSB as unqualified or unacceptable without sound reasons based on a thorough investigation of their capabilities. Contractor must submit proof of the basis for rejecting any LOSB deemed unqualified or unacceptable by the Contractor. The Contractor will not impose unrealistic conditions of performance on LOSB's seeking subcontracting opportunities.

The Contractor must fully cooperate with Shelby County in its post-contract award LOSB Program audit and compliance efforts.

Substitution of LOSB's after Contract Award

In order to make a substitution of a LOSB, a Contractor must make a request to Shelby County. This request must be submitted in writing to Shelby County. Shelby County reserves the right to approve any substitution of a LOSB. The Contractor has the responsibility to provide Shelby County with a reasonable basis for the substitution. If the Contractor desires to substitute the LOSB with a Non-LOSB, then the Contractor must comply with the Effort to Achieve LOSB Participation provisions set forth herein.

Noncompliance with LOSB Program

Any of the following reasons, individually or collectively, may result in suspension from bidding, prohibition from contracting, or cancellation of contracts:

- 1. The failure to perform according to contract provisions relating to this LOSB Program;
- 2. Violation of, circumvention of, or failure to comply with the LOSB Program; and/or, other reasons deemed appropriate by Shelby County.

Questions and Information

Questions regarding this LOSB Program and requests for information should be directed to:

Ms. Carolyn Griffin Office of Equal Opportunity Compliance Board of Commissioners of Shelby County 160 North Main Street, Suite 200 Memphis, Tennessee 38103 Phone: 901-222-1100 Fax: 901-222-1101 E-mail: Carolyn.Griffin@shelbycountytn.gov

Construction

This LOSB Program is consistent with Shelby County Policies and Procedures. Wherever conflicts exist, the provision in the Shelby County Policies and Procedures will prevail.

LOSB Program Forms Description

• <u>LOSB Form A</u> -- Certification of Efforts

Contractors are required to submit **LOSB Form "A"** with proposals as evidence and documentation of efforts that have been made to contact LOSB's for participation as subcontractors, joint venture partners, or suppliers of goods and services. Contractors are required to contact LOSB's and solicit quotes for goods and services. All responses to the Contractor's solicitation should be recorded and reported.

• <u>LOSB Form B</u> -- LOSB Utilization Plan

A Contractor is required to submit <u>LOSB Form "B"</u> with its Proposal in order to identify all LOSB's they propose to utilize in providing the goods and services included in the Proposal. Contractors may only include a proposed provider of goods or services on <u>LOSB</u> <u>Form "B,"</u> if the entity is a legitimate LOSB. Additionally, if such entity will provide services, Contractors may only list LOSB's on <u>LOSB Form "B"</u> if the entity will perform a Commercially Useful Function. The Successful Contractor will be required to finalize and submit <u>LOSB Form "B"</u> prior to award of a contract. <u>LOSB Form "B"</u> will be incorporated into the contract and will become a contractual obligation of the Successful Contractor. <u>LOSB Form "B"</u> shall not be changed or altered after award of a contract without approval from Shelby County. The Contractor is required to provide written notice describing the reasons for any proposed change to Shelby County and to obtain approval from Shelby County of any changes to <u>LOSB Form "B."</u>

<u>LOSB Form C</u> –Statement of Intent to Perform as a Subcontractor or Provide Supplies or Services.

Contractors are required to have each subcontracted LOSB providing services complete **LOSB Form "C**" certifying that it is performing the work and that it is a Commercially Useful Function.

• <u>LOSB Form D</u> – Statement of Payments to LOSB's

Contractors are required to record and maintain information regarding the utilization of LOSB's and all other information during the performance of awarded contracts. This information shall be recorded and maintained on <u>LOSB Form "D."</u> The form is required to be submitted to Shelby County each month. <u>LOSB Form "D"</u> must be completed in its entirety with information regarding the types of goods purchased from LOSB's or the types of services rendered by LOSB's and dollars amounts paid for their goods or services.

Shelby County LOSB Program LOSB FORM A CERTIFICATION OF EFFORTS TO ACHIEVE LOSB PARTICIPATION (To Be Submitted with the Bid/Dennesel)

(To Be Submitted with the Bid/Proposal)

Company Name:	
Bid No.:	

I cer	tify that the following efforts where made to achieve LOSB participation:	YES	NO
Α	Provided written notices to LOSB's who have the capability to perform the work of the contract		
	or provide the service		
В	Direct mailing, electronic mailing, facsimile or telephone requests		
С	Provided interested LOSB's with adequate information about plans, requirements and		
	specifications of the contract in a timely manner to assist them in responding to a solicitation		
D	Allowed LOSB's the opportunity to review bid specifications, blue prints and all other		
	bid/SEALED BID related items at no charge, and allowed sufficient time for review prior to the		
	bid deadline		
Е	Acted in good faith with interested LOSB's, and did not reject LOSB's as unqualified or		
	unacceptable without sound reasons based on a thorough investigation of their capabilities		
F	Did not impose unrealistic conditions of performance on LOSB's seeking subcontracting		
	opportunities		

Additionally, I contacted the referenced LOSB's and sealed bid/proposal. The responses I received were as follows:

Name and Address of LOSB	Type of Work And Contract Items, Supplies or Services to be Performed	Response	Reason for Not Accepting Bid/Proposal

(If additional space is required, this form maybe duplicated)

If applicable, please complete the following:

I hereby certify that LOSB's were "Unavailable" as defined in the LOSB Program to submit bids to provide goods and services for this SEALED BID's purpose.

Reasons for the "Unavailability":

Submitted by:

Authorized Representative Signature

Title

Date

Shelby County LOSB Program

LOSB FORM B

LOSB UTILIZATION PLAN (To Be Submitted with the Bid/Proposal)

(10 De Bublinted with the Did/110posti)

Company: _____

Bid No.:

I, _____, do certify that on the following procurement opportunity, (Contractor)

, the following LOSB's will be utilized as sub-contractors,

(Opportunity)

suppliers, or to provide professional services:

Name	Description of Work	Contract Value	LOSB Number

(If additional space is needed this form may be duplicated)

TOTAL CONTRACT VALUE:

TOTAL % OF LOSB PARTICIPATION: _____

The successful bidder is required to finalize and submit this form prior to award of a contract. Joint Venture Agreements, partnering agreements and all pertinent information must be presented prior to contract award. This information will be incorporated into the contract and will become a contractual obligation of the successful bidder. The finalized LOSB Form B shall not be changed or altered after award of a contract without approval from Shelby County. The successful bidder is required to provide written notice describing the reasons for the change to Shelby County to obtain approval of any changes to LOSB Form B.

Submitted by:

Authorized Representative Signature

Title

Date

Shelby County LOSB Program LOSB FORM C

STATEMENT OF INTENT TO PERFORM AS A SUBCONTRACTOR OR PROVIDE SUPPLIES OR SERVICES

(To Be Submitted Prior to Contract Award)

Company Name: Bid No.:	
I,	, intend to provide supplies or services in connection with the
(Subcontractor/Provider) above <u>bid/proposal</u> request as a LOSB	i.
I am prepared to perform a "Commerc	cially Useful Function" in connection with the above project.
The following are the work items to be	performed:
at the following price: \$	
If applicable, please complete the foll	lowing:
I have or will enter into a formal agreer	ment with for the above-(Company)
described scope of work, supplies, or se	(Company) ervices conditioned upon the execution of a contract
with Shelby County.	
I have her existing that this statement is the	up and correct:
I hereby certify that this statement is tru	
Business Information:	Submitted by:
Business:	Authorized Representative (Print):
Address:	
	Title:
Phone:	Authorized Representative's Signature:
Facsimile:	Date:

Shelby County LOSB Program

LOSB FORM D

STATEMENT OF PAYMENTS TO LOSB'S

(To Be Submitted Monthly and with Final Payment Request)

Name of Firm	Description of work	Total Amount Due This Month	Total Dollars Paid To Date	% of Contract Completed	Start Date of Contract	End Date of Contract

(If additional space is needed this form may be duplicated)

I hereby certify that this statement is true and that above payments have been made.

Business Information:	Submitted by:
Business:	Authorized Representative (Print):
Address:	
Titl	e:
Phone:	Authorized Representative's Signature:
Facsimile:	Date:

LOCALLY OWNED SMALL BUSINESS PURCHASING PROGRAM RULES AND REGULATIONS:

1. The Administrator of Purchasing in conjunction with the Administrator of EOC shall identify certain goods and services required by the County to be set aside for special purchasing procedures for locally owned small businesses.

2. Only certified locally owned small businesses will be allowed to submit competitive bids on the goods or services identified under paragraph (i) above.

3. The Administrator of Purchasing shall, in conjunction with the Administrator of EOC, annually review the Shelby County Capital Improvement Program to determine those projects with a construction cost of \$250,000 or more. Contracts amounting to at least ten (10%) of the construction costs of such project shall be awarded to locally owned small businesses as defined herein, except as set forth in sub-paragraph (vi) of this section, either as part of the conditions of the solicitation for general contractors bidding on these projects, or as separate bids issued by the County for subcontracts that may be assigned to general contractors.

4. After adhering to all other bidding and purchasing requirements of the County, not inconsistent with this part, if no bids are received from locally owned small businesses, then the County may solicit bids for the goods or services from all other sources.

5. On all purchases and/or contracts entered into by the County, the Purchasing Administrator or his or her designee shall have the right to negotiate with any supplier of goods or services to the County for the inclusion of locally owned small business subcontractors and/or suppliers in the contract award.

6. Failure by a supplier or contractor to include locally owned small business sub-contractors or suppliers in its bid or contract may be grounds for rejection of said bid or contract unless the supplier or contractor can show documented evidence of good cause why none were included.

7. Any locally owned small business awarded a contract or purchase order under this section shall not sublet, subcontract, or assign any work or services awarded to it without the prior written consent of the Mayor or the Purchasing Administrator.

8. As to those purchases below the requirement for a formal bid solicitation (currently, under \$15,000) and not included in the locally owned small business set aside, the Administrator of Purchasing shall determine if any locally owned small business offers that product or service. If so, at least one such eligible locally owned small business should be included in the vendors contacted for an opportunity to bid, and the Administrator of Purchasing may, at his discretion, designate in a purchase order the purchase of such goods and services from the identified locally owned small business.

9. In those situations where a locally owned small business as defined herein, engages in open competitive bidding for County contracts, the Administrator of Purchasing shall provide for a preference for the locally owned small business where responsibility and quality are equal. Said preferences shall not exceed five percent (5%) of the lowest possible bidder meeting specifications. The preference shall be applied on a sliding scale in the following manner:

- a. A preference of up to five percent (5%) shall be allowed for contracts up to \$ 500,000.00;
- b. A preference of up to three and five-tenths percent (3.5%) shall be allowed for contracts up to \$750,000.00;
- c. A preference of two and one-half percent (2.5%) shall be allowed for contracts up to \$1,000,000.00;
- d. A preference of two percent (2%) shall be allowed for contracts that exceed \$1,000,000.00.

10. For construction contracts over \$2,000,000.00, the Administrator of Purchasing shall provide for a preference of two percent (2%) to general contractors meeting the requirements of Section 1, Subparagraph B, if fifty percent (50%) or more of the total work comprising the bid has been or will be awarded to certified locally owned small businesses. The fifty percent subcontracting threshold must be met prior to contract execution.

11. The Administrator of Purchasing may divide a single bid package for any purchase of goods and services into two or more smaller bid packages in any case that the Administrator of Purchasing reasonably believes that the smaller bid packages will result in a greater number of bids by locally owned small businesses.

12. The Administrator of Purchasing, upon approval of the County Mayor, may establish special insurance and bonding requirements for certified locally owned small businesses so long as they are not in conflict with the laws of the State of Tennessee.

13. The Administrator of Purchasing, with the approval of the County Mayor, shall adopt and promulgate, and may from time to time, amend rules and regulations not inconsistent with the provisions of this ordinance, governing the purchase of goods and services from locally owned small business concerns to effectuate and implement the Locally Owned Small Business Purchasing Program within the intent of this ordinance.

14. The Administrator of EOC shall, in conjunction with the Administrator of Purchasing, provide a written quarterly report to the Mayor and Board of Commissioners which shall include a summary of the purchases selected for this program, a listing of the contracts awarded to locally owned small businesses for the period, and the dollar amounts of each such contract, and the percentage which such contracts bear to the total amount of purchases for the period.

J. DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF

COUNTY OF_____

The undersigned, principal officer of ______, an employer of five (5) or more employees contracting with _____County government to provide construction services, here states under oath as follows:

2. The Company submits this Affidavit pursuant to T.C.A. § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title *50*, Chapter 9, of the *Tennessee Code Annotated*.

3. The Company is in compliance with T.C.A. ~ 50-9-113. Further affiant smith not. Principal Officer

STATE OF_____

COUNTY OF_____

Before me personally appeared with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained. Witness my hand and seal at office this day of ______.

<u>Notary Public</u> My commission expires:

K. GRATUITY DISCLOSURE FORM:

CODE OF ETHICS Section 18-59

SHELBY COUNTY GOVERNMENT GRATUITY DISCLOSURE FORM

INSTRUCTIONS: This form is for all persons receiving any Shelby County Government contract, subcontract, land use approval or financial grant of money to report any gratuity that has been given, directly or indirectly, to any elected official, employee or appointee (including their spouses and immediate family members) who is involved in the decision regarding the contract, land use approval, or financial grant of money.

1. NAME:

2. DATE OF GRATUITY:

3. NATURE AND PURPOSE OF THE GRATUITY:

4. NAME OF THE OFFICIAL, EMPLOYEE, APPOINTEE, OR FAMILY MEMBER WHO RECEIVED THE GRATUITY:

5. NAME OF THE PERSON OR ENTITY THAT PROVIDED THE GRATUITY:

6. ADDRESS OF THE PERSON OR ENTITY THAT PROVIDED THE GRATUITY:

7. DESCRIPTION OF THE GRATUITY:

8. **COST OF THE GRATUITY:** (If cost is unknown and not reasonably discernible by the person giving the gratuity, then the person giving the gratuity shall report a good faith estimate of the cost of the gratuity.)

9. **AFFIDAVIT:**

The information contained in this Gratuity Disclosure Form, and any supporting documentation or materials referenced herein or submitted herewith, is true and correct to the best of my knowledge, information and belief and affirm that I have not given, directly or indirectly, any gratuity to any elected official, employee or appointee (including spouse and immediate family members) that has not been disclosed and I affirm that I have not violated the provisions of the Shelby County Government Code of Ethics.

Signature

Date

Print Name

A copy of your completed form will be placed on the Shelby County Internet Website.

L. FORMS TO BE SUBMITTED:

LOSB FORM A: MUST BE COMPLETED AND SUBMITTED IN YOUR BID ENVELOPE.

LOSB FORM B: MUST BE COMPLETED, SUBMITTED WITH YOUR BID DOCUMENTING ALL LOSB'S TO BE UTILIZED, THE PERCENTAGE OF UTILIZATION AND THE INTENDED SCOPE OF THE WORK.

LOSB FORM C- MUST BE COMPLETED AND SUBMITTED BY EACH LOSB PROVIDING SUBCONTRACTED GOODS AND OR SERVICES CERTIFYING THAT THEY ARE PERFORMING THE WORK AND THAT IT IS A COMMERCIALLY USEFUL FUNCTION. ONLY REQUIRED AFTER THE AWARD OF THE BID.

LOSB FORM D-MUST BE COMPLETED AND SUBMITTED BY THE SUCCESSFUL CONTRACTOR EACH MONTH CERTIFYING ALL PAYMENTS MADE TO LOSB'S.

DRUG FREE WORKPLACE AFFIDAVIT – MUST BE COMPLETED AND SUBMITTED WITH YOUR BID.

BID BOND – ALL BIDS MUST BE ACCOMPANIED BY A BANK CERTIFIED CHECK OF BANK DRAFT, LETTER OF CREDIT ISSUED BY ANY NATIONAL BANK OR APPROVED BID BOND FOR NOT LESS THAN 5% (PERCENT) OF THE AMOUNT OF THE BID. ALL PROPOSAL GUARANTEES SHALL BE MADE OUT TO THE COUNTY OF SHELBY.

<u>NOTE:</u> THE SUCCESSFUL CONTRACTOR WILL SUBMIT LOSB FORM C AND D.

FAILURE TO SUBMIT THE REQUIRED FORMS MAY RESULT IN YOUR BID BEING REJECTED AS BEING IN NON-COMPLIANCE WITH BID REQUIREMENTS.

VII. General Requirements:

A. Scope of Work

The County proposes Elevator Modernization, Shelby County Juvenile Court, 616 Adams Avenue, Memphis, Tennessee 38105..

B. Project Time Frame

The Provider must be prepared to begin immediately upon receipt of a Notice to Proceed.

C. Reservation of Rights

The County reserves the right, for any reason to accept or reject any one or more proposals, to negotiate the term and specifications for the services provided, to modify any part of the RFP, or to issue a new RFP.

D. Selection Criteria

Contract(s) will be awarded based on the lowest responsive proposals received. The contents of the proposal of the successful Bidders will become contractual obligations and failure to accept these obligations in a contractual agreement may result in cancellation of the award.

E. Additional Information and References

Any additional information that would be helpful to the County evaluating your proposal, including a list of current and former clients with a similar profile to Shelby County should be submitted.

VIII. Award of contract:

Bidders are advised that the lowest responsive proposal will be awarded the contract.

IX. NOTICE TO BIDDERS

Receipt of Bids:

Request For Proposals for the improvements described herein will be received at THE OFFICE OF THE SHELBY COUNTY ADMINISTRATOR OF PURCHASING, SUITE 900, SHELBY COUNTY ADMINISTRATION BUILDING, 160 NORTH MAIN, MEMPHIS, TENNESSEE 38103, until August 8, 2014 @ 4:00 PM.

Description of Work:

The proposed work is officially known as: ELEVATOR MODERNIZATION, SHELBY COUNTY JUVENILE COURT, 616 ADAMS AVENUE, MEMPHIS, TENNESSEE 30105

Pre-Bid Meeting:

Bidders are encouraged to attend a pre-bid meeting to be held on <u>July 25, 2014 @ 9:30</u> <u>P.M.</u> at Shelby County Juvenile Court, Room 307, 616 Adams Avenue, Memphis, Tennessee 38105.

Instruction to Bidders:

- (a) The REQUEST FOR PROPOSAL MUST BE DOWNLOADED FROM THE SHELBY COUNTY GOVERNMENT WEBSITE at www.shelbycountytn.gov and click the link "Department" at the top, then P for the Purchasing Department, then click on the link "Bids."
- (b) All bids must be accompanied by a bank cashier's check or bank draft, letter of credit issued by any national bank or certificate of deposit therein, duly assigned, or certified check or approved bid bond for not less than five (5) percent of the amount of the bid. All proposal guarantees shall be made out to the COUNTY OF SHELBY.
- (c) All bidders must be licensed by the Tennessee State Board of Licensing
- (d) General Contractors Evidence of this license must appear on the title page of the Proposal in the space provided, and also on the exterior of the sealed envelope. The envelope enclosing each bid must show the Contractor's name, license number, expiration date thereof, and license classification of the contractor(s) bidding for the prime contract and for the masonry, electrical, plumbing, heating, ventilation, and air conditioning subcontracts in accordance with TCA 62-6-119. Lacking all of this information, the bid shall be rejected and returned to the bidder unopened.

EOC Requirements:

As a condition precedent to bidding, bidders shall have received a current "Equal Opportunity Compliance Eligibility Number" which must be attached to each bid submission. To receive an E.O.C. Eligibility Number, specific information must be received by the E.O.C. Department at least 48 hours prior to the bid opening. To verify your E.O.C. Number or to receive information for obtaining a number, contact the E.O.C. Department, <u>901-222-1100</u>. Use of Locally Owned Small Business (LOSB) participation on County projects is mandatory.

Bidders are encouraged to contact County-certified LOSB firms from the listing that can be obtained from Shelby County EOC department. Bidders may also provide the names of firms they believe would qualify as LOSB firms, by notifying the E.O.C. Department and filing the required forms at least five (5) working days prior to the bid opening

A Locally Owned Small Business is defined as a sole proprietorship, corporation, partnership, or joint venture located within Shelby County and at least 51% owned, operated and managed by a Shelby County resident and having an average annual sale of \$5,000,000.00 or less over the past three (3) years.

Rejection of Bids:

The **COUNTY OF SHELBY** reserves the right to reject any and all proposals and to waive technicalities in any proposal.

BY ORDER OF: CLIFTON DAVIS

PURCHASING ADMINISTRATOR SHELBY COUNTY GOVERNMENT

_____, 2014

PROPOSAL - RFP#15-007-01

(COPY THIS PROPOSAL AND USE AS YOUR BID FORM)

In compliance with your Invitation for Bids for:

Shelby County Government - Juvenile Court 616 Adams Ave - Elevator #4 Modernization

Project Location:	616 Adams Ave
	Memphis, TN 38105

The undersigned bidder: (Checkone)

a corporation organized and existing under Tennessee laws;

□ a	partnership	consisting	of
u	paratoronip	oonoloung	01

an individual trading as _____

of the City of ______ having examined the attached Contract Documents and being fully advised as to the extent and character of the work to be performed, and the equipment to be furnished, proposes to furnish and pay for all labor, tools, material, utility fees, plant, federal, state and local taxes and equipment necessary for implementation of the Contract requirements.

The base bid includes a **\$10,000.00 contingency allowance** for work not identified or delineated elsewhere in the Contract Documents. This allowance shall be used only where authorized by the Owner in writing for additional work as necessary to complete the work shown and only if this additional work is concealed and can not be anticipated otherwise. Any portion of the allowances not used shall be eliminated from the Contract at project close-out by a deductive change order.

The undersigned Bidder further proposes to perform all work as selected by the Owner and furnish and pay for all equipment in accordance with the Contract Documents, within the time limit specified, for the following Bid Package if awarded by the Owner:

BASE BID - Elevator #4

in figures \$ _____

in words

ADDITIVE ALTERNATE #1 - Elevator #4 - New Car Interior

in figures \$ _____

in words

The undersigned Bidder, pursuant to the rights reserved by the Owner, under Legal Notice to Bidders as to rejection of bids and under Instructions to Bidders as to award of Contract, agrees to accept the award of said Contract and hereby agrees to enter into a Contract within 7 days after due notification from the Owner of award of the Contract, and further agrees to furnish all labor, tools, materials, plant, and equipment, perform all services and comply with all terms and

conditions established by the Contract Documents.

The Bidder agrees that if he is awarded this Contract, he will commence construction within 14 calendar days after receipt of signed contract and will be <u>substantially complete with all work</u> within 20 weeks from the date of the contract award, at which time the Owner will have full beneficial use of all elevators in this building. Final Closeout shall occur within 4 weeks of substantial completion or the liquidated damages shall be reinstated until the project is fully completed and all documentation and programming is approved and accepted by the Owner.

Should the Contractor neglect, refuse, or fail to complete the work within the time specified, after all extensions of time granted by the Owner have been added, then in that event the Owner shall have and is hereby given the right to deduct and retain out of such monies which may then be due, or which may become due and payable to the Contractor for the work to be done under this Contract, an agreed upon sum equal to Five Hundred Dollars (\$500.00) per calendar day for each and every day that the work is delayed in its completion beyond the specified time. The said \$500.00 per day shall be held by the Owner under a mutual understanding between the Contractor, Contractor's Surety and the Owner. If necessary the Owner shall collect any monies directly from the Contractor or the Contractor's Surety.

Office hours vary in this facility with occupancy beginning about 07:00 and ending about 17:00 Monday through Friday, excluding County recognized holidays. Elevator #4 is currently out of service and work may proceed as quickly as the Contractor can perform the work.

Upon reasonable notification from Contractor the Owner will arrange for after hours access to facilities as needed to comply with requirement for nearly normal use of facility. Enclosed herewith is a (Certified Check) (Cashier's Check) or a solvent bank (5% Bidder's Bond) in the amount of ______ DOLLARS (\$______), made payable to the Owner as a guarantee of good faith and which the undersigned hereby agrees shall be retained as liquidated damages by the Owner should the Contractor fail to furnish a Performance Bond written by good solvent in a surety company doing business in the State of Tennessee and acceptable to the Owner. The Performance Bond shall be in an amount equal to the gross amount of said Contract, and the Performance Bond shall be made and Contract shall be signed within 2 weeks after date of due notification from the Owner of award of the Contract, and the check shall be returned to the undersigned upon the signing of the Contract and delivery of the required number of copies of approved Performance/Payment Bond to the Owner.

In submitting this bid, it is understood that the right is reserved by the Owner to reject any and all bids and it is understood that this bid may not be withdrawn for a period of 90 days after the scheduled time for receipt of bids.

The undersigned declares that _______ is the only person, firm or corporation interested in this proposal, and that no other person, firm or corporation than the one herein named has any interest herein or in the Contract proposed to be taken; that it is made without any connection with any person, firm or corporation making proposal for the same work, and that it is in all respects fair as to the work bid upon and without collusion or fraud; also that no officer or employee of Shelby County Government who is excluded by law from participating therein, is directly or indirectly interested herein, or in furnishing of the supplies or doing the work to which it relates, or in furnishing surety, or in any portion of the profits thereof.

Receipt of the following addenda is hereby acknowledged: (Insert numbers of all addenda received; if no addenda received, insert "None").		
Bidder		
Signature	Printed Name	
Business address		
Full name and residence of all perso	ons interested in the foregoing as principals are:	
(Name)	(Address)	
(Name)	(Address)	
(Name of President if a Corporation)	(Name of Secretary if a Corporation)	
	END OF SECTION	

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A311

Labor and Material Payment Bond

THIS BOND IS ISSUED SIMULTANEOUSLY WITH PERFORMANCE BOND IN FAVOR OF THE OWNER CONDITIONED ON THE FULL AND FAITHFUL PERFORMANCE OF THE CONTRACT

KNOW ALL MEN BY THESE PRESENTS: that

as Principal, hereinafter called Principal, and,

as Surety, hereinafter called Surety, are held and firmly bound unto

(Here insert full name and address or legal title of Owner)

(Here insert full name and address or legal title of Surety)

(Here insert full name and address or legal title or contractor)

as Obligee, hereinafter called Owner, for the use and benefit of claimants as hereinbelow defined, in the

amount of

(Here insert a sum equal to at least one-half of the contract price)

Dollars (\$ for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

19

WHEREAS,

Principal has by written agreement dated (Here insert full name, address and description of project)

in accordance with Drawings and Specifications prepared by

reinsert full name and address or legal title of Architect)

entered into a contract with Owner for

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

LABOR AND MATERIAL PAYMENT BOND

NOW. THEREFORE. THE CONDITION OF THIS OBLIGATION JS such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimants work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial

Signed and sealed this (Wi(nc~s)

(VVilnss)

day of

accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

	19
(Principal)	
(Tillt)	
(Surt'ty)	(Seal)

AIA DOCUMENT A311 · PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND · AIA ® FEBRUARY 1970 ED. • THE AMERICAN INSTITUTE OF ARCHITECTS. 1735 N.Y. AVE., N.W., WASHINGTON, D. C. 20006

1

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A311

Performance Bond



KNOW ALL MEN BY THESE PRESENTS: that (Here insert full name and address or legal Idle of Contractor) as Principal, hereinafter called Contractor, and, (Here insert lull name and address or legal title of Surety) (Here insert lull name and address or legal title of Owner) as Obligee, hereinafter called Owner, in the amount of Dollars (\$), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. WHEREAS, Contractor has by written agreement dated entered into a contract with Owner for 19 (Here insert full name, address and description of project)

in accordance with Drawings and Specifications prepared by

(Here insert full name and address or legal title of Architect)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

as Surety, hereinafter called Surety, are held and firmly bound unto

PERFORMANCE BOND

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

1) Complete the Contract in accordance with its 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 Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a 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 amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and sealed this

day of

20

SHELBY COUNTY GENERAL CONDITIONS OF THE

CONTRACT FOR CONSTRUCTION

Rev. 5/24/99

constcnd.doc

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

ARTICLE I CONTRACT DOCUMENTS

1.1 Definitions

1.1.1 The Contract Documents

The Contract Documents consist of the Owner-Contractor Agreement, the conditions of the Contract (General, Supplementary and other conditions), the Drawings, the Specifications, and all Addenda issued prior to and all modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a written interpretation issued by the Architect pursuant to Subparagraph 2.2.8, or (4) a written order for a minor change in the Work issued by the Architect pursuant to Paragraph 12.3. The Contract Documents include Bidding Documents such as the Advertisement or invitation to Bid, the Instructions to Bidders, sample forms, the Contractor Bid, or portions of Addenda relating to any of these, and other documents specifically enumerated in the Owner-Contractor Agreement.

1.1.2 The Contract

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the supersedes parties hereto and all prior negotiations, agreements, either written or oral. representations, or The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.1. The Contract Documents shall not be construed to create any contractual relationship of any kind between the Architect and the Contractor, but the Architect shall be entitled to performance of obligations intended for his benefit, and to enforcement thereof. Nothing contained in the Contract Documents shall create any contractual relationship between the Owner or the Architect or any Subcontractor or sub-subcontractor.

1.1.3 The Work

The Work comprises the completed construction required by the contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

Initial

1.1.4 <u>The Project</u>

The Project is the total construction of which the Work performed under these Contract Documents may be the whole or a part.

1.2 Execution Correlation and Intent

1.2.1 The Contract Documents shall be signed in not less than four originals by the Owner and Contractor. If either Owner or Contractor or both do not sign the Conditions of the Contract, Drawings, Specifications, or any of the other Contract Documents, the Architect shall identify such Documents.

1.2.2 By executing the Contract, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not specifically set forth in the Contract Documents will not be required unless it is consistent with work that is specifically set forth in the Contract Documents or is reasonably inferable from the Contract Documents as being necessary to produce the intended results. Words and abbreviations, which have well-known technical or trade meanings, are used in the Contract Documents in accordance with such recognized meanings.

1.2.4 The organization of the Specifications into divisions, sections, and articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Sub-contractors or in establishing the extent of Work to be performed by any trade.

1.3 Ownership and Use of Documents

1.3.1 All Drawings, Specifications, and copies thereof furnished by the Architect are the property of the Owner. They are to be used only with respect to this Project and are not to be used on any other project. With the exception of one contract set for each party to the Contract, such documents are to be returned or suitably accounted for to the Architect on request at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect will furnish, free of charge, to

Initial

the Contractor sufficient sets of Contract Documents to execute the Work not to exceed ten (10). The Contractor may purchase additional sets by paying reproduction costs.

ARTICLE II ARCHITECT

2.1 Definition

2.1.1 The Architect is the person lawfully licensed to practice Architecture, or any entity lawfully practicing Architecting identified as such in the Owner-Contractor Agreement, and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Architect means the Architect or his authorized representative.

2.2 Administration of the Contract

2.2.1 The Architect will provide administration of the Contract as hereinafter described.

2.2.2 The Architect will be the Owner representative during construction and until final payment is due. The Architect will advise and consult with the Owner. The Owner instructions to the Contract shall be forwarded through the Architect. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified by written instrument signed by the Owner.

2.2.3 The Architect will visit the site at intervals appropriate to the stage of construction to familiarize himself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. On the basis of his on-site observations as an Architect, he will keep the Owner informed of the progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.

2.2.4 The Architect will not be responsible for and will not have control or charge of construction means, methods, techniques or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Architect will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any of the Work.

Initial

2.2.5 The Architect shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so the Architect may perform his functions under the contract documents.

2.2.6 Based on the Architects observations and an evaluation of the Contractor Applications for Payment, the Architect will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts as provided in Paragraph 9.4.

2.2.7 The Architect will render interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with any time limit agreed upon so as to cause no delay the Project. Either party to the Contract may make written request to the Architect for such interpretations.

2.2.8 All interpretations and decisions of the Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings.

5

2.2.9 The Architects decision in matters relating to artistic effect will be final if consistent with the intent of the Contract Documents. The Architect shall rule on all claims and disputes that relate to the interpretation of the Contract Documents.

The Architect will have authority to reject Work, which 2.2.10 does not conform to the Contract Documents. Whenever, in his considers it opinion, he necessary or advisable for the implementation of the intent of the Contract Documents, he will have authority to require special inspection or testing of the Work in accordance with Subparagraph 7.7.2 whether or not such Work is then fabricated, installed or completed. In the event the Architect determines that any Work deleted by the Contractor should have been performed by the Contractor under the Contract Documents, he shall issue a final determination that the Contractor shall proceed with the Work as directed by the Architect, and the Contractor shall proceed with the Work even if he is in disagreement with the decision of the Architect.

2.2.11 The Architect will review and approve or take other appropriate action under Contractor submittals such as Shop Drawings, Product Data, and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Architects approval of a specific item shall not indicate approval of an assembly of which the item is a component.

Initial _____

2.2.12 The Architect will prepare Change Orders in accordance with Article 12 and will have the authority to order minor changes in the Work as provided in Subparagraph 12.3.

2.2.13 The Architect will conduct inspections to determine the dates of Substantial Completion and completion will receive and forward to the Owner for the Owner review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a Final Certificate for Payment upon compliance with the requirements of Paragraph 9.8.

ARTICLE III <u>OWNER</u>

3.1 Definition

3.1.1 The Owner is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the Owner, or his authorized representative.

3.2 Information and Services Required of the Owner

3.2.1 The Owner or Architect shall furnish all surveys describing the physical characteristics, legal limitations, and utility locations for the site of the Project, and a legal description of the site.

3.2.2 Except as provided in Subparagraph 4.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

3.2.3 Information or services under the Owner control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.

3.2.4 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, all copies of Drawings and Specifications reasonably necessary for the execution of the Work.

3.2.5 The foregoing are in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Work by Owner or by Separate Contractors, Payments and Completion and Insurance in Article 6, 9 and 11, respectively.

Initial _____

3.3 Owner Right to Stop the Work

3.3.1 If the Contractor fails to correct defective Work as required by Paragraph 13.2 or persistently fails to carry out the Work in accordance with the Contract Documents, the Owner may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity. Any such order to the

Contractor shall be in writing.

3.4 Owner Right to Carry Out the Work

3.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within two (2) days after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedy it may have, make good and correct such deficiencies with its own forces or with the forces of another contractor. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect additional services made necessary by such default, neglect, or failure. If the payments then or thereafter due the Contractor shall pay the difference to the Owner.

3.4.2 The Owner shall have access to the Project at all times.

ARTICLE IV CONTRACTOR

4.1 Definition

4.1.1 The Contractor is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

4.2 Review of Contract Documents

4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Architect any error, inconsistency or omission he may discover.

Initial

4.3 Supervision and Construction Procedures

4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for

all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract.

4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor.

4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents by either the activities or duties of the Architect in his administration of the Contract, or by inspection, tests, or approvals required or performed under Paragraph 7.7 by persons other than the Contractor.

4.4 Labor and Materials

4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him.

4.4.3 When a material, equipment, or system is specified or approved in an addendum, by the name of one or more manufacturers, such material, equipment, or system shall form the basis of the contract. If Contractor desires to use another material, equipment, or system in lieu thereof, he shall request approval in writing and shall submit samples and data as required for the Architect consideration. The Architect and Owner will be the final judge for the acceptance or the substitution. No Substitution shall be made without authority in writing from the Architect.

4.4.4 By making requests for substitutions based on Subparagraph 4.4.3 above, the Contractor:

9

Initial

- .1 represents that he has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
- .2 represents that he will provide the same warranty for the substitute that is required by the Contract Documents for that specified.
- .3 certifies that the cost data presented is complete and includes all related costs and excludes the Architect redesign costs, and waives all claims for additional costs related to the substitution which subsequently became apparent; and
- .4 will coordinate the installation of the accepted substitute, making such changes at no additional cost to Owner as may be required for the Work to be complete in all respects.

4.4.5 The General Contractor shall disclose the existence and extent of financial interests, whether direct or indirect, he has in subcontractors and material suppliers, which he may propose for this Project.

4.5 <u>Warranty</u>

4.5.1 The Contractor warrants to the Owner and the Architect that all materials and equipment furnished under this Contract will be new unless otherwise specified, and all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and requirements including substitutions not properly approved and authorized, may be considered defective. f required by the Architect, the Contractor shall furnish satisfactory evidence. This warranty is not limited by the provisions of Paragraph 13.2.

4.6 Taxes

4.6.1 The Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contractor, which are legally enacted at the time bids, are received, whether or not yet effective.

Initial _____

4.7 <u>Permits, Fees, and Notices</u>

4.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and for all other permits and governmental fees, licenses and inspections necessary for the proper execution of the Contract.

4.7.2 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the Work.

4.7.3 If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Architect, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

4.8 Allowances and Owner Furnished Equipment, Fixtures or Labor

4.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by these allowances shall be supplied for such amounts and by such persons as the Owner may direct, but the Contractor will not be required to employ persons against whom he makes a reasonable objection.

4.8.2 Unless otherwise provided in the Contract Documents:

- .1 these allowances shall cover the cost to the Contractor, less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and applicable taxes;
- .2 the Contractor costs for unloading and handling on the site, labor, installation costs, overhead,

profit and other expenses contemplated for the original allowance shall be included in the Contract Sum and not in the allowance;

.3 whenever the cost is more than or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses.

Initial

4.8.3 The Owner may directly furnish any or all of the equipment, fixtures, or labor required for the Project. In the event the Owner elects to do so, the Contract Price for such equipment, fixtures, or labor will be reduced by the amount for equipment of labor being furnished by Owner. A Change Order reducing the Contract Price for that item of work shall be executed by Owner and Contractor to reflect a reduction in the Contract Price for that item, equipment, fixtures or work that the Owner is to furnish. The Contractor shall assume responsibility for and be fully responsible for the care, custody, and control of all Owner furnished equipment and/or fixtures once said equipment or fixtures arrive on the job site or in any approved off site storage facility.

4.9 Superintendent

4.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor and shall be confirmed in writing.

4.10 Documents and Samples at the Site

4.10.1 The Contractor shall maintain at the site for the Owner, one record copy of all Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to record all changes made during construction and approved Shop Drawings, Product Data and Samples. These shall be available to the

Architect and shall be delivered to him for the Owner upon completion of the Work.

4.11 Shop Drawings, Product Data, and Samples

4.11.1 Shop Drawings are drawings, diagrams, schedules, and other data specifically prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

4.11.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

Initial

4.11.3 Samples are physical examples, which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

4.11.4 The Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.

4.11.5 By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and the Contract Documents.

4.11.6 The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architects approval of Shop Drawings, Product Data or Samples under Subparagraph 2.2.11, unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings,

Product Data, or Samples by the Architect approval thereof.

4.11.7 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, or Samples, to revisions other than those requested by the Architect on previous submittals.

4.11.8 No portion of the Work requiring submission of a Shop Drawing, Product Data, or Sample shall be commenced until the submittal has been approved by the Architect as provided in Subparagraph 2.2.11. All such portions of the Work shall be in accordance with approved submittals.

4.12 Use of Site

4.12.1 The Contractor shall confine operations at the site to areas permitted by law, ordinance, permits and the Contract Documents and shall not unreasonably encumber the site with any materials or equipment.

4.13 Cutting and Patching of Work

4.13.1 The Contractor shall be responsible for all cutting,

Initial

fitting or patching that may be required to complete the Work or to make its several parts fit together properly.

4.13.2 The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate contractor except with the written consent of the Owner. The Contractor shall not unreasonably withhold from the Owner his consent to cutting or otherwise altering the Work.

4.14 Cleaning Up

4.14.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work, he shall remove all his waste materials and rubbish from and about the project as well as all his tools, construction equipment, machinery and surplus materials.

4.14.2 If the Contractor fails to clean up at the completion of the Work, the Owner may do so as provided in Paragraph 3.4 and the cost thereof will be charged to the Contractor.

4.15 Royalties, Patents, and Records

4.15.1 The Contractor shall pay all royalties and license fees. He shall defend all suits and claims for infringement of any patent rights and shall save Owner and Architect harmless from loss on account thereof.

4.15.2 The Contractor shall not discriminate against any subcontractor, employee, or applicant for employment on the grounds of race, color, national origin, or sex.

4.15.3 The Contractor and all subcontractors under the general contract shall maintain copies of every sub-payroll period for the life of the construction contract and for a period of three (3) years after final release and payment is made by the Owner to the Contractor.

4.15.4 Each Contractor request for payment, including final payment and each partial payment, if permitted by the contract, shall contain a certification by the Contractor that performance by the Contractor and his subcontractor for the period of work covered by the payment request has been in accordance with the contract clauses and requirements with respect to nondiscrimination.

Initial

4.15.5 Representatives of Shelby County, as designated by the Mayor, shall have the right to inspect the Contractor facilities and payroll records during the term of the construction contract and for a period of three (3) years after final release and final payment by the Owner for the purposes of verifying nondiscrimination in employment.

4.15.6 The Contractor shall incorporate the same requirements set forth in Subparagraph 5.3.1 in all Subcontracts awarded by him with the further requirement that each Subcontract include identical requirements to be included in any lower tier Subcontracts together with the requirement to include it in any further subcontracts that might be made.

4.16 Indemnification

4.16.1 (a) By executing this Agreement, the Contractor assumes the entire responsibility and liability for any and all claims, damage or injury of any kind or nature (including death) to all persons, whether employees of the Contractor or otherwise, and to all property (including but not limited to the replacement cost and lose of use of property), caused by, resulting from, arising out of, or occurring in connection with the performance of the Work by the Contractor, its agents, servants, employees, or subcontractors or anyone directly or indirectly employed by any of them for whose acts any of them may be liable.

If any claim is made against the Owner for any (b) damage, injury, death, or loss, whether such claim is based upon the Contractor or its agents, servants, employees , or subcontractors alleged active or passive negligence or participation in the wrong, or upon any alleged active or passive negligence or participation in the wrong, or upon any alleged breach of any statutory duty or obligation on the part of the Contractor, its agents, servants, employees or subcontractors, or in any other instance for which the Contractor has assumed responsibility in this Agreement, the Contractor shall indemnify, defend, and hold harmless the Owner, its officers, directors, agents, servants and employees from and against any and all loss, expense, judgment, damage or injury (including attorney fees and expenses) that the Owner or its officers, directors, agents, servants or employees may sustain as the result of any such claim. The Contractor shall assume on behalf of the Owner, its officers, directors, agents, servants and employees the defense of any action at law or in equity which may be brought against any of them upon any such claim, and shall pay on behalf of them the amount of any judgment with any costs or expenses incurred by any of them in connection with such claim.

Initial _____

4.16.2 Labor Indemnity

4.16.2.1 The Contractor shall indemnify, defend and hold harmless the Owner from any and all administrative and judicial actions (including reasonable attorney fees related to any such action) incurred by the Owner in connection with any labor related activity arising from the performance of the Work of the Contractor. As used

in this Agreement, labor related activity includes, but is not limited to strikes, walkouts, informational or organizational picketing, use of placards, distribution of handouts, leaflets or in the vicinity of any facility where the Owner conducts business. The Owner shall advise the contractor if any labor related activity Contractor shall arrange for occurs and the the leqal representation necessary to protect the Owner, provided such representation is previously approved by the Owner.

4.16.3 Attorney Fees

4.16.3.1 In the event it becomes necessary for Owner to employ an attorney to enforce any provision of this Agreement, then the Contractor shall be liable for all attorney fees and litigation expense of Owner.

4.17 Progress Schedule

4.17.1 The Contractor shall, within five (5) days from receipt of the Notice to Proceed, prepare and submit for the Owner and Architect an estimated project schedule for the Work. The Progress Schedule shall be updated each month to reflect actual progress made and to forecast future progress of the Work. The Progress Schedule shall be related to the entire Project as provided by the Documents and shall provide for expeditious and contract practicable execution of the Work. The Owner reserves the right to reasonably reschedule the Work or the sequence of activities of the contractor for no additional compensation should it deem rescheduling to be in its best interest.

ARTICLE V SUBCONTRACTORS

5.1 Definition

5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the Work at the site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. The term Subcontractor does not include any separate contractor or his subcontractor.

Initial

5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform any of the Work at the site. The term Sub-subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Sub-subcontractor or an authorized representative thereof.

5.2 Award of Subcontracts and Other Contracts for Portions of the Work

5.2.1 Unless otherwise required by the Contract Documents or Bidding Documents, the Contractor, as soon as practicable after the award of the Contract, shall furnish to the Owner and the Architect in writing the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objection. No work shall be commenced until approval of all such Subcontractors has been given in writing by the Owner. If required, the Contractor shall furnish evidence satisfactory to the Owner, showing each proposed Subcontractor is competent to execute the Work covered by the Subcontract.

5.2.2 The Contractor shall not contract with any such proposed person or entity to whom the Owner or the Architect has made reasonable objection under the provisions of Subparagraph 5.2.1. The Contractor shall not be required to contract with anyone to whom he has a reasonable objection.

5.2.3 If the Owner or the Architect has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner or the Architect has no reasonable objection. Such substitution shall in no way affect the Contract Sum.

5.2.4 The Contractor shall make no substitution for any Subcontractor, person, or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

5.2.5 The Contractor shall submit a status report with regard to Subcontractors identified on Exhibit C, which forms a part of the Contract Documents, as to any change in the subcontractors identified thereon and the reasons for same, the dollars paid to the prior subcontractor and the amount of the new subcontract.

Initial _____ THIS REPORT SHALL BE SUBMITTED TO CONTRACTS ADMINISTRATION OF SHELBY COUNTY GOVERNMENT, 160 N. Main St., Suite 1109, Memphis, Tennessee, 38103.

5.3 Subcontractual Relations

By an appropriate agreement, the Contractor shall require 5.3.1 each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner and the Architect. Said agreement shall preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with his Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by the Paragraph 5.3, and identify to the Subcontractor any terms and conditions of the proposed subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to any Sub-subcontractors.

ARTICLE VI WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 Owner Right to Perform Work and to Award Separate

Contracts

6.1.1 The Owner reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract.

6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

Initial _____

6.2 Mutual Responsibility

6.2.1 The Contractor shall afford the Owner and separate contractor's reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate his Work with theirs as required by the Contract Documents.

6.2.2 If any part of the Contractor Work depends on proper execution or results in the work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Architect any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acceptance of the Owner or separate contractor work as fit and proper to receive his Work.

6.2.3 Should the Contractor wrongfully cause damage to the work or property of the Owner or to other work on the site, the Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.

6.2.4 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings, and if any judgment or award against Owner arises there from, the Contractor shall pay or satisfy it and shall reimburse the Owner for all Attorney fees

and Court costs which the Owner has incurred.

6.3 Owner Right to Clean Up

6.3.1 If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Paragraph 4.14, the Owner may clean up and charge the cost thereof to the contractors responsible therefore as the Owner shall determine to be just.

ARTICLE VII MISCELLANEOUS PROVISIONS

7.1 GENERAL COMPLIANCE WITH LAWS

7.1.1 If required, the Contractor certifies that it is

Initial

qualified or will take steps necessary to qualify to do business in the State of Tennessee and that it will take such action as, from time to time, may be necessary to remain so qualified and it shall obtain, at its expense all licenses, permits, insurance, and governmental approvals, if any, necessary to the performance of its obligations under this Agreement.

7.1.2 The Contractor is assumed to be familiar with and agrees that at all times it will observe and comply with all federal, state, and local laws, ordinances, and regulations in any manner affecting the conduct of the work. The preceding shall include, but is not limited to, compliance with all Equal Employment Opportunity laws, the Fair Labor Standards Act, Occupational Safety, and Health Administration (OSHA) requirements, and the Americans with Disabilities Act (ADA).

7.1.3 This Contract will be interpreted in accordance with the laws of the State of Tennessee. By execution of this contract the Contractor agrees that all actions, whether sounding in contract or in tort, relating to the validity, construction, interpretation and enforcement of this contract will be instituted and litigated in the courts of the State of Tennessee, located in Shelby County, Tennessee, and in no other. In accordance herewith, the parties to this contract submit to the jurisdiction of the courts of the State of Tennessee located in Shelby County, Tennessee.

7.2 Successors and Assigns

7.2.1 This Agreement (including without limitation, all obligations imposed by the Contract Documents) shall be binding upon and shall inure to the benefit of the parties successors, assigns, and legal representative. The Contract shall not be assigned or sublet in whole or in part by the Contractor without the written consent of the Owner, nor shall the Contractor assign any monies due or to become due to him hereunder, without the previous written consent of the Owner.

7.3 Written Notice

7.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm, entity or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice.

Initial

7.4 Claims for Damages

7.4.1 Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the other party, or of any of his employees, agents or others for whose acts he is legally liable, claim shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

7.5 Performance Bond and Labor and Material Payment Bond

7.5.1 The Contractor shall furnish and keep in force throughout the performance of the Work a separate performance bond and separate labor and material payment bond, each in the amount of the total of the Contract (as the same may be modified from time to time) conditioned upon the faithful performance of the Work by the Contractor and payment of all obligations arising in connection with the Work by the Contractor. Said bonds shall also guarantee to the Owner that the Work shall be fee of all liens upon the property of the Owner. The bonds shall name the Owner as obligee and shall be with such Surety authorized to do business in the State of Tennessee and in such form and manner as approved by Owner. Said Bond shall be subject to final approval of the Shelby County Risk Management Department. Said bonds shall be furnished to the Owner prior to the commencement of the Work, or upon written request by Owner to Contractor after the Work has commenced.

7.6 Rights and Remedies

7.6.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

7.6.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach there under, except as may be specifically agreed in writing.

7.7 Tests

7.7.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested or approved, the Contractor shall give the Architect timely notice of its readiness so the Architect may observe such inspection, testing

Initial

or approval. The Contractor shall bear all costs of such inspections, tests, or approvals conducted by public authorities. Unless otherwise provided, the Owner shall bear all costs of other inspections or tests.

7.7.2 If the Architect determines that any Work requires special inspection, testing, or approval, which Subparagraph 7.7.1 does not include, he will, upon written authorization from the Owner, instruct the Contractor to order such special inspection, testing, or approval, and the Contractor shall give notice as provided in Subparagraph 7.7.1. If such special inspection or

testing reveals a failure of the Work to comply with the requirements of the Contract Documents, the Contractor shall bear all costs thereof, including compensation for the Architect additional services and/or correction of the defective Work made necessary by such a failure; otherwise, the Owner shall bear such costs, and an appropriate Change Order shall be issued.

7.7.3 Required certificates of inspection, testing, or approval shall be secured by the Contractor and promptly delivered by him to the Architect.

7.7.4 If the Architect is to observe the inspection, tests or approvals required by the Contract Documents, he will do so promptly where practicable, at the source of supply.

ARTICLE VIII TIME

8.1 Definitions

8.1.1 Unless otherwise provided, the Contract time is the period of time allotted in the Contract Documents for Substantial Completion of the Work as defined in Subparagraph 8.1.3, including authorized adjustments thereto.

8.1.2 The date of commencement of the Work is the date established in a notice to proceed. If there is no notice to proceed, it shall be the date of the Owner-Contractor Agreement or such other date as may be established therein.

8.1.3 The date of Substantial Completion of the Work or designated portion thereof is the Date certified by the Architect when construction is sufficiently complete, in accordance with the contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for the use for which it is intended.

Initial

8.1.4 The term day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

8.2 Progress and Completion

8.2.1 All time limits stated in the Contract Documents are of the essence of the Contract.

8.2.2 The Contractor shall begin the Work on the date of commencement as defined in Subparagraph 8.1.2. He shall carry the work forward expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

8.3 Delays and Extensions of Time

8.3.1 The Contractor shall proceed with each and every part of this Agreement in a prompt and diligent manner. The Contractor, without additional compensation, shall perform the Work at such times, in such order and in such manner as the Owner may direct. The Contractor shall commence, continue, and complete its performance of the Project so as not to delay Owner or other separate contractors of the Owner or subcontractors completion of the Work or any portions thereof, and so as to insure completion as directed by Owner. Any time specified for the completion of the Work, or portion thereof, is a material provision of this Agreement, and time is of the essence. The Contractor shall furnish sufficient forces to assure proper performance of its Work in strict compliance with all performance or progress schedules for the Project.

The Contractor shall, from time to time, on written 8.3.2 demand of Owner, give adequate evidence to Owner to substantiate the planned performance and progress of the Work and the various parts thereof. The Contractor shall promptly increase its work force, accelerate its performance, work overtime, work Saturdays, Sundays and holidays, all without additional compensation, it in the opinion of the Owner, such work is necessary to maintain proper progress. The Contractor will fully cooperate and coordinate its work with any other separate contractors of Owner or subcontractors at the Project. The Contractor shall bear the costs of all damages done to other separate contractors of Owner or subcontractors and Shall be responsible for any damages caused by or resulting from acts or omissions of the Contractor in failing to make proper progress. The liability of the Contractor shall not be deemed waived by any assent or acquiescence by Owner to the Contractor late performance. Owner shall be entitled to terminate this Agreement due to late or threatened late performance, upon seven (7) days notice to proceed and Contractors failure to do so.

8.3.3 In the event any subcontractor should damage the Contractor, the Contractor shall neither seek nor be entitled to any compensation from Owner, but will seek its damages directly from such subcontractor. Should the Contractor performance, in whole or part, be disrupted, interfered with or delayed, or be suspended in the commencement, prosecution or completion, for reasons beyond the Contractor control and without its fault or negligence, the Contractor shall be entitled to an extension of time in which to complete its Work; but only if it shall have notified the Owner, in writing, of the cause of delay within five (5) days of the occurrence of the event. The Contractor and Owner agree that the Contractor shall not be entitled to any money damages regardless of fault as a result of any delay, acceleration, disruption, interference, suspension, or other event affecting the Contractor or the Contractor performance.

Initial

ARTICLE IX PAYMENTS AND COMPLETION

9.1 Contract Sum

9.1.1 The Contract Sum is stated in the Owner-Contractor Agreement and, including authorized adjustments thereto, is the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents.

9.2 Schedule of Values

9.2.1 Before the first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to the various portions of the Work, prepared in such form, and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used only as a basis for the Contractor Applications for Payment.

9.3 Applications for Payment

9.3.1 At least ten days before the date of each progress payment established in the Owner-Contractor Agreement, the Contractor shall submit to the Architect an itemized Application for Payment, notarized if required, supported by such data

substantiating the Contractor right to payment as the Owner or the Architect may require, and reflecting retain age, if any, as provided elsewhere in the Contract Documents. The Contractor shall indicate on each Application for Payment the dollar amount and percentage due Subcontractors.

Initial _____ Progress payments (monthly) will be made based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect as follows:

On or before the 10th day of each month, 95% of the proportion of the Contract Sum properly allocable to labor, materials and equipment incorporated in the Work, up to the first day of that month, less the aggregate of previous payments in each case. Payments will be less such retainage as the Architect shall determine for all incomplete work and unsettled claims.

9.3.1.1 Until final payment, the Owner will pay 95% of the amount due the Contractor on account of progress payments. If the manner of completion of the Work and its progress are and remain satisfactory to the Owner, it may, in its sole discretion, for each Work category shown to be 50% or more complete in the Application for Payment, without reduction of previous retainage, on presentation by the Contractor with Consent of Surety for each application, certify any remaining progress payments for each Work category to be paid in full.

9.3.1.2 The full Contract retainage may be reinstated at any time in the sole discretion of the Owner.

9.3.2 Unless otherwise provided in the Contract Documents, payments will be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site and, if approved in advance by the Owner, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner title to such materials or equipment or otherwise protect the Owner interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site.

9.3.3 The Contractor warrants that title to all Work, materials

and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in the Article IX as liens ; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other persons performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

Initial

9.3.4 The Contractor shall submit a report with each Application for Payment, which sets forth all subcontractors performing work during that reporting period, the dollar amount paid to the subcontractor, etc. on the form provided by Shelby County Government.

9.4 Certificate for Payment

9.4.1 The Architect will, within seven (7) days after the receipt of the Contractor Application for Payment, issue a Certificate for Payment to the Owner for such amount as the Architect determines is properly due.

9.4.2 The issuance of a Certificate of Payment will constitute a representation by the Architect to the Owner, based on his observations at the site as provided in Subparagraph 2.2.3 and the data comprising the Application for Payment, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and any specific qualifications stated in his Certificate); and that the Contractor is entitled to payment in the amount certified.

9.5 Progress Payments

9.5.1 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor Work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor Work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

9.6 Payments Withheld

9.6.1 The Architect may decline to certify payments and may withhold his Certificate in whole or in part, to the extent necessary to protect the Owner, if in his opinion he is unable to make representations to the Owner as provided in Subparagraph 9.4.2. The Architect may also decline to certify payment or,

Initial ______ because of subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of any Certificate for Payment previously issued, to such extent as may be necessary in his opinion to protect the Owner from loss because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials, or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time; or
- .7 persistent failures to carry out the Work in accordance with the Contract Documents.

9.6.2 When the above grounds in Subparagraph 9.6.1 are removed, payment shall be made, without interest, for any amounts previously withheld.

9.7 Substantial Completion

When the Contractor considers that the Work, or a 9.7.1 designated portion thereof which is acceptable to the Owner, is substantially complete as defined in Subparagraph 8.1.3, the Contractor shall prepare for submission to the Architect a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Architect on the basis of an inspection determines that the Work or designated portion thereof is substantially complete, he will then prepare a Certificate of substantial Completion which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall

Initial _____ commence on the Date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

9.7.2 Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Architect, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof, as provided in the Contract Documents. Payment by the Owner upon application by the Contractor and certification by the Architect for Substantial Completion does not waive any claims the Owner may have against the Contractor.

9.8 Final Completion and Final Payment

9.8.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when he finds the Work acceptable under the

Contract Documents and the Contract fully performed, he will promptly issue a final Certificate for Payment stating that to the best of his knowledge, information and belief, and on the basis of his observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract documents and that the entire balance found to be due the Contractor, and noted in said final Certificate, is due and payable. The Architect final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor being entitled to final payment as set forth in Subparagraph 9.7.2 have been fulfilled.

Neither the final payment nor the remaining retained 9.8.2 percentage shall become due until the Contractor submits to the Architect (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety to final payment and (3) if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of claims, encumbrances and/or alleged liens arising out of the Contract, to the extent and in such form as may be designated by the Owner. If any Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorney fees.

Initial

9.8.3 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment.

ARTICLE X PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs

10.1.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in

connection with the Work.

10.2 Safety of Persons and Property

10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

- .1 all employees on the Work and all other persons who may be affected thereby;
- .2 all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Subsubcontractors; and
- .3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury, or loss.

10.2.3 The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities. Pavements, sidewalks, alleys, adjacent buildings not included in this Contract, which may be damaged, shall be repaired and/or replaced immediately and in a manner satisfactory to the Architect, Shelby County and/or other governing officials.

Initial

10.2.4 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.2.5 The Contractor shall promptly remedy all damage or loss (other than damage or loss insured under Paragraph 11.3) to any property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, Subcontractor, or any Subsubcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts the Contractor may be liable or responsible. The foregoing obligations of the Contractor are in addition to his obligations under Paragraph 4.16.

10.2.6 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor superintendent unless otherwise designated by the Contractor in writing to the Owner and the Architect.

10.2.7 The Contractor shall not load or permit any part of the Work to be loaded to endanger its safety.

10.3 Emergencies

10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury, or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article XII for Changes in the Work.

10.3.2 Whenever the Contractor has not taken sufficient precautions for the safety of the public or the protection of work to be performed under this Project, or adjacent structures or property which may be injured by processes of construction, demolition and/or site clearance on account of such neglect, and whenever an emergency shall arise and immediate action shall be considered necessary in order to protect public or private, persons or property interest, then the Architect and/or the Owner shall so instruct the Contractor.

10.3.3 If correction is not made in due time or if conditions such as lack of time prevent instructions to Contractor, then the Owner, without notice to the Contractor, may provide reasonable, suitable protection by causing such Work to be done and material to be furnished and placed as the Architect and Owner may consider necessary and adequate. The cost and expense of such work and

Initial _____

material so furnished shall be borne by the Contractor and, if the same shall not be paid on presentation of the bills thereof, such costs shall be deducted from any amounts due or to become due the Contractor. The performance of such emergency work under the direction of the Owner and/or Architect shall in no way relieve the Contractor of the responsibility for damages, which may occur during or after such performance.

10.3.4 None of the foregoing shall make the Owner and/or Architect responsible for foreseeing and protecting against emergency.

ARTICLE XI INSURANCE

11.1 Contractor Liability Insurance

11.1.1 The Contractor shall purchase and maintain, in a company or companies licensed to do business in the State of Tennessee, such insurance as will protect the Owner from claims set forth below which may arise out of or result from the Contractor operations under the Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts the Contractor or Subcontractor may be liable:

- .1 claims under workers compensation, disability benefits, and other similar employee benefit acts;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of his employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;
- .4 claims for damages insured by personal injury liability coverage, which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;
- .5 claims for damages, other than the Work itself, because of injury to or destruction of tangible

property, including loss of use resulting there from; and

Initial

.6 claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle.

11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than any limits of liability specified in the Contract Documents, section III, paragraph 31, or required by law, whichever is greater.

11.1.3 The insurance required by Subparagraph 11.1.1 shall include contractual liability insurance applicable to the Contractors obligations under Paragraph 4.16.

11.1.4 All insurance policies maintained by the Contractor shall provide that insurance as applying to the Owner shall be primary and non-contributing irrespective of such insurance as the Owner may maintain in its own name and on its own behalf.

Certificates of Insurance acceptable to the Owner shall 11.1.5 be filed with the Owner at the time of submittal of the Contract Documents to the Owner for execution. These certificates shall contain a provision that coverage's afforded under the policies will not be canceled until at least thirty-(30) days prior written notice has been given to the Owner. The Contractor shall notify immediately Shelby County Government, Contract Administration, 160 N. Main Street, Suite 550, Memphis, Tennessee 38103 of cancellation or changes in any of the insurance coverage required. Upon request of the Owner, certified copies of any of the required insurance policies may be requested from the Contractor or Contractor's insurance company, agency, or broker.

11.2 Owners Liability Insurance

11.2.1 The Owner shall at its discretion, purchase liability insurance or maintain a self-insured liability program.

11.3 Property Insurance

11.3.1 The General Contractor shall be responsible for all risk insurance for physical loss or damage for the project during construction until the project is accepted by the Owner at which time the Owner will provide the property coverage.

11.3.2 The Contractor shall pay each Subcontractor a just share of any insurance monies received by the Contractor, and by appropriate agreement, written where legally required for validity, shall require such Subcontractor to make payments to his Subsubcontractors in similar manner.

11.3.3 The Contractor or his insurance agent, broker or insurance company shall furnish to Owner a copy of all policies with the Contactor within five days of request.

11.3.4 If the Owner requests in writing that insurance for risks other than those described in Subparagraphs 11.3 and 11.3.2 or 11.3.3 or other special hazards to be included in the property insurance policy, the Contractor shall, if possible, include such insurance, and the cost thereof shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order. Initial_____

ARTICLE XII CHANGES IN THE WORK

12.1 Change Orders

12.1.1 A Change Order is a written order to the Contractor signed by the Owner issued after execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time. The Contractor by execution of the Change Order waives any further claims or damages in any manner whatsoever for the changes set forth in the Change Order.

12.1.2 The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents.

12.1.3 The cost or credit to the Owner resulting from a change in the Work shall be determined in one or more of the following ways:

Initial _____

- .1 by lump sum properly itemized on the form furnished by the Owner which shall show the actual verified cost of the work, plus ten percent overhead and five percent profit; if the work is performed by a Subcontractor, the General Contractor is allowed an additional five percent;
- .2 by unit prices stated in the Contract Documents or subsequently agreed upon;

- .3 by cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 by the method provided in Subparagraph 11.1.4.

If none of the methods set forth in Clauses 12.1.3.1, 12.1.4 12.1.3.2, or 12.1.3.3 is agreed upon, the Contractor, provided he receive a written order signed by the Owner, shall promptly proceed with the Work involved. The cost of such Work shall then be determined by the Architect on the basis of the reasonable expenditures and savings of those performing the Work attributable to the change, including, in the case of an increase in the Contract Sum, a reasonable allowance for overhead and profit, which shall be defined as ten percent overhead and five percent profit with an additional five percent going to the General Contractor when the work is performed by a Subcontractor. In such case, and also under Clauses 12.1.3.3 and 12.1.3.4 above, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data for inclusion in a Change Order. Unless otherwise provided in the Contract Documents, cost shall be limited to the following: cost of labor, including social security, old age and unemployment insurance and fringe benefits required by agreement or custom; workers or workmen compensation insurance; bond premiums, rental value of equipment and machinery; and the additional costs of supervision and field office personnel directly attributable to the change. Pending final determination of cost to the Owner, payments on account shall be made on the Architect Certificate for Payment. The amount of credit to be allowed by the Contractor to the Owner for any deletion or change which results in a net decrease in the Contract Sum will be the amount of the actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change.

Initial _____

12.2 <u>Concealed Conditions</u>

12.2.1 Should concealed conditions encountered in the performance of the Work below the surface of the ground or should concealed or unknown conditions in an existing structure be at

variance with the conditions indicated by the Contract Documents, or should unknown physical conditions below the surface of the ground or should concealed or unknown conditions in an existing structure of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract, be encountered, Contractor, subject to approval by the Architect, shall be entitled to a time extension for only the period that the Contractor performance is extended due to the unforeseen conditions.

12.3 Minor Changes in the Work

12.3.1 The Architect will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such Changes shall be effected by written order, and shall be binding on the Owner and the Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE XIII UNCOVERING AND CORRECTION OF WORK

13.1 Uncovering of Work

13.1.1 If any portion of the Work should be covered contrary to the request of the Architect or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect, be uncovered for his observation and shall be replaced at the Contractor expense.

13.1.2 If any other portion of the Work has been covered which the Architect has not specifically requested to observe prior to being covered, the Architect may request to see such Work, and it shall be uncovered by the Contractor. If such Work is found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work is found not in accordance with the Contract Documents, the Contractor shall pay such costs. If the Work to be uncovered by the Contractor should have been inspected by the Architect prior to being covered, and the Work is found to be in accordance with the Contract Documents, the cost of the uncovering and recovering of the Work shall be borne by the Architect.

Initial _____

13.2 Correction of Work

13.2.1 The Contractor shall promptly correct all Work rejected by the Architect as defective or as failing to conform to the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Architect additional services made necessary thereby.

13.2.2 If, within one year after the Date of Substantial Completion of the Work or designated portion thereof, within one year after acceptance by the Owner of designated equipment or within such longer period of time as may be prescribed by law or by the term of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so. This obligation shall survive termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

13.2.3 The Contractor shall remove from the site all portions of the Work, which are defective or non-conforming, unless removal is waived by the Owner.

13.2.4 If the Contractor fails to correct defective or nonconforming Work as provided in Subparagraphs 4.5.1, 13.2.1, and 13.2.2, the Owner may correct it in accordance with Paragraph 3.4.

13.2.5 If the Contractor does not proceed with the correction of such defective or non-conforming Work within a reasonable time fixed by written notice from the Architect, the Owner may remove it and store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten days thereafter, the Owner may, upon ten additional days written notice, sell such Work at auction or a private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Architect additional services made necessary thereby. If such proceeds of sale do not cover all costs, which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

13.2.6 The Contractor shall bear the cost of making good all work of the Owner or separate contractors destroyed or damaged by such correction or removal.

Initial

13.2.7 Nothing contained in Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time period of one year after the Date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor liability with respect to his obligations other than specifically to correct the Work.

13.3 Acceptance of Defective or Non-Conforming Work

13.3.1 If the Owner prefers to accept defective or nonconforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effective whether or not final payment has been made.

ARTICLE XIV TERMINATION OF THE CONTRACT

14.1 <u>Termination for Default</u>

14.1.1 Should the Contractor fail to perform in strict accordance with this Agreement, where or as Owner may so direct, or should the Contractor become insolvent, unable to or fail to pay its obligations as they mature or, in any other respect fail in the opinion of the Owner, to properly prosecute and perform any part of its work, fail to exert its best performance efforts, be involved in labor disputes, or be terminated under any other contract with Owner, then the Contractor may be deemed by Owner to have

materially breached and to have defaulted in its obligations under this Agreement. In case of a breach and default, the Owner, at its discretion, may terminate this Agreement, or any part thereof, by giving five (5) days written notice thereof to the Contractor. In case of such termination, Owner may use any and all materials, equipment, tools or chattels furnished by or belonging to the Contractor either at or for the Project.

14.1.2 The Contractor, on termination, will be deemed to have offered to Owner an assignment of all of its subcontracts and purchase orders relating to this Project. Owner may, at its discretion, do whatever is necessary to assure performance of any

14.1.3 If the unpaid balance of the Contract Sum exceeds the costs of finishing the Work, including compensation for the Architect additional services made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or to the Owner, as the case may be, shall be certified by the Architect, upon application, in the manner provided in Paragraph 9.4, and this obligation for payment shall survive the termination of this Contract.

14.2 Termination for Convenience

14.2.1 Owner, by written notice, shall have the right to terminate and cancel this Agreement, without the Contractor being at fault, for any cause or for its own convenience, and require the Contractor to immediately stop work. In such event, Owner shall pay

the Contractor for that Work actually performed and materials furnished in an amount proportionate to the Contract price. Owner shall not be liable to the Contractor for any other costs, including prospective profits on Work not performed.

ARTICLE XV RIGHT TO OCCUPY BY OWNER

15.1 Early Occupancy by Owner

15.1.1 The Owner has the right to occupy or use ahead of schedule all or any substantially completed or partially completed portion of the Work when such occupancy and use are in its best interest, notwithstanding the time of completion for all of the Work. If occupancy or use increases the cost of the Work (other than for corrections which are the responsibility of the Contractor) and/or as a result of the Owner exercising its rights

Initial

herein, the contractor shall be entitled to extra costs and extensions of time, or both. Claims for such extra costs and extensions of time, to be valid, shall be made in writing to the Owner within seven (7) calendar days of the notification of Owner to the Contractor of its intent to so occupy or use.

15.2 Corrections after Occupancy

15.2.1 After the Owner has taken occupancy of all or any substantially completed portion of the Work, the Contractor shall not disrupt the use and occupancy of the Owner to make corrections in the Work but shall, at the discretion of the Owner, make such corrections at the expense of the Contractor after normal working hours.

15.3 Heating, Ventilating, and Air-Conditioning Systems

15.3.1 The Owner may require the use and operation of any completed heating, ventilating, and air-conditioning equipment at the time it occupies or uses any substantially completed portion of the Work. In such event, the Owner may require the Contractor to operate such equipment and will pay the Contractor the cost of such utilities required for the use and occupancy of the Owner, but the Contractor shall be responsible for such equipment and for its careful and proper operation. At any time, the Owner may assume the

care and maintenance of any portion of the Work, which it is occupying and using for the operation of any such equipment, but in each case, the Contractor shall not be relieved of its responsibility for the full completion of the Work and the protection of its tools, materials, and equipment.

ARTICLE XVI REGULATIONS

16.1 Nondiscrimination in Employment

16.1.1 During the performance of this Contractual Agreement, the contracting party agrees as follows: The CONTRACTOR agrees that no person on the grounds of handicap, age, race, color, religion, sex, or national origin, shall be excluded from participation in, or be denied benefits of, or be otherwise subject to discrimination in the performance of this contract, or in the employment practices of the CONTRACTOR. The CONTRACTOR shall upon request show proof of such non-discrimination, and shall post in conspicuous places available to all employees and applicants notices of non-discrimination.

16.2 [RESERVED]

Initial _____

16.3 Maintenance and Records

16.3.1 The Contractor and all Subcontractors under the General Contract shall maintain copies of every subcontract awarded and their own payrolls, for each weekly payroll period during the term of the Construction Contract and for a period of one (1) year after release and payment is made by Owner to the Contractor.

16.4 Owner Right of Inspection

16.4.1 Representative of the Owner, as designated by the County Mayor, shall have the right to inspect the Contractor facilities and payroll records during the life of the Construction Contract for a period of one (1) year after final release and final payment by the Owner for the purpose of verifying nondiscrimination in employment.

ARTICLE XVII PROCEDURE FOR INSTALLATION OR REMOVAL OF FIBERGLASS INSULATION

The following procedures should be adhered to when disturbing, installing, or removing fiberglass insulation. These procedures are established to minimize employee exposure to the adverse health affects of fiberglass exposure.

The below procedures are the minimal requirements for handling fiberglass in Shelby County Facilities. Mandates by code or law must be adhered to.

17.1 Installation, Removal, or Disturbance of Fiberglass Insulation

17.1.1 Install in well-ventilated areas and avoid breathing dust.

17.1.2 Wear loose, comfortable clothing and long-sleeved shirts to minimize skin contact.

17.1.3 Handle carefully to minimize airborne dust.

17.1.4 If high dust levels are anticipated during installation, such as with power tools, use appropriate NIOSH approved dust respirator.

17.1.5 All power cutting tools must be equipped with dust collectors.

Initial _____

17.2 Exposure

17.2.1 After use, wash with warm water and mild soap. Do not scratch or rub skin if it becomes irritated. Utilize running water.

17.2.2 Wash work clothes separately, and then rinses the washer.

17.2.3 Eye exposure: Flush with flowing water for at least 15 minutes. If symptoms persist, seek immediate medical attention.

17.3 Work Site Environment

17.3.1 Insure area is free of obvious partials through proper cleanup procedures. Use of vacuum with proper filters, or wet cleanup is acceptable. (This includes office furniture, floors, and walls.)

17.3.2 Initially there may be a potential adverse impact on indoor air quality within the general work area during the installation process. Notify building manager or other appropriate person that it will be necessary to establish and maintain adequate ventilation of the work area, without causing the entry of contaminants to other parts of the building. Persons who are sensitive to odors and/or chemicals should be advised to avoid the work area during this process.

17.3.3 Exposure to employees should be kept to a minimum.

17.3.4 Disturbance of ceiling tiles where fiberglass insulation exists requires the same procedures as if installation or removal was taking place.

BY THE SIGNING OF THIS DOCUMENT AND INITIALING EACH PAGE HEREOF, THE CONTRACTOR CERTIFIES THAT HE HAS READ AND UNDERSTANDS ALL OF THE ABOVE AND AGREES TO ABIDE BY THESE GENERAL CONSTRUCTION CONDITIONS.

CONTRACTOR

BY:

TITLE: _____

DATE: _____

constcnd.doc

THIS IS A DRAFT ONLY!! ORIGINAL DOCUMENTS IN EXECUTED FORM ARE REQUIRED PRIOR TO COUNTY SIGNATURE. IT IS A MANDATORY REQUIREMENT THAT ALL DOCUMENTS WHICH ARE REQUIRED TO BE ATTACHED TO THIS AGREEMENT BE ATTACHED BEFORE SUBMITTAL TO SHELBY COUNTY FOR SIGNATURE. IF NOT, THE AGREEMENT WILL BE RETURNED FOR COMPLETION.

COUNTY/CONTRACTOR AGREEMENT

OWNER: SHELBY COUNTY GOVERNMENT 160 N. MAIN ST. MEMPHIS, TN 38103

CONTRACTOR:

ARCHITECT\ ENGINEER:

THIS CONTRACT made and entered into this _____ day of _____, 20__, by and between SHELBY COUNTY GOVERNMENT, through its governing body and authorized representative, party of the first part, hereinafter referred to as "COUNTY," and ______, party of the second part, hereinafter referred to as "CONTRACTOR."

WITNESSETH

WHEREAS, the COUNTY issued Sealed Bid No. _____ for _____, hereinafter in this Contract referred to as "PROJECT".

WHEREAS, the said CONTRACTOR submitted a bid/proposal in accordance with bid specifications, a copy of which is attached hereto as Exhibit "A" and incorporated herein by reference, which bid was accepted by COUNTY. NOW, THEREFORE, CONTRACTOR agrees and undertakes to (describe work to be done) in accordance with the Bid Specifications which are on file in the Shelby County Purchasing Department and which are incorporated herein by reference, and at the price quoted for said PROJECT by CONTRACTOR. Further, the parties agree that they will be governed by the Shelby County General Conditions of the Contract for work to be performed. The Contractor acknowledges that it has read and is familiar with the contents of said General Conditions, agrees to be bound thereby and has executed a copy of same at the place indicated thereon. A copy of said General Conditions is attached hereto as Exhibit "B" and incorporated fully herein by reference.

SECTION 1. CONTRACTOR'S RESPONSIBILITIES

- 1. CONTRACTOR shall perform all necessary work required by the contract documents for the satisfactory completion in full of the PROJECT.
- 2. CONTRACTOR shall coordinate all work with COUNTY through ______. Work shall be scheduled on a regular basis in as timely and orderly a manner as possible.
- 3. The CONTRACTOR shall give a Performance Bond and Labor and Material Bond, each equal to 100% of the amount of the Contract, with surety to be approved by the COUNTY, conditioned upon the full and faithful performance of all the terms and conditions of the Contract with special reference to paying in full in lawful money of the United States, all just and valid claims for material and labor entered into for the said work covered by this Contract. That further, this Contract shall not take effect until these Bonds have been executed and approved by the County.
- 4. The CONTRACTOR further agrees to provide insurance coverage of the type and in the amounts as required in section III, Specific Provision, paragraph 31.
- 5. The COUNTY shall pay the CONTRACTOR for the performance of the Contract _________(\$)Dollars, subject to additions

and deductions as provided in the contract documents.

- 6. The CONTRACTOR shall execute the entire work described in the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others, within _____ (__) calendar days from the actual start date as specified in the written "Notice to Proceed."
- 7. All work by CONTRACTOR is to be performed in a manner satisfactory to COUNTY, and in accordance with the established customs, practices and procedures of COUNTY. CONTRACTOR is to periodically request sufficient conferences to insure that the work is being done by CONTRACTOR in a satisfactory manner in accordance with the wishes of COUNTY.

SECTION II. METHOD OF PAYMENT

- 1. CONTRACTOR shall provide an Application for Payment to be received by the Architect/Engineer not later than the 25th day of each month. COUNTY shall make payment to the CONTRACTOR not later than the 20th day of the following month. If an Application for Payment is received by the Architect/Engineer after the application date fixed above, payment shall be made by COUNTY not later than forty-five (45) days after receipt of the Application for Payment. If the CONTRACTOR submits an incorrect Application for Payment, payment date will be extended thirty (30) days from the date of correction.
- 2. Application for payment shall indicate the percentage of completion of each portion of the work as of the end of the period covered by the Application for Payment.
- 3. Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:
 - a. Take that portion of the contract sum properly allocable to completed work as determined by multiplying the percentage completion of each portion of the work by the total Contract Sum less retainage of five (5%) percent;
 - b. Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by COUNTY, suitably stored off the site ate a location agreed upon

in writing), less retainage of five (5%) percent;

- c. Subtract the aggregate of previous payments made by the COUNTY; and
- d. Subtract amounts, if any, for which the Architect/ Engineer has withheld or nullified a Certificate of Payment as provided in the General Conditions to Construction Contracts.
- 4. When all work embraced in this Contract has been fully and completely performed on the part of the CONTRACTOR, and accepted by the COUNTY, there shall be a statement by CONTRACTOR of the work done according to the terms herein, and the balance appearing to be due the CONTRACTOR out of funds applicable for payment for this work, excepting there from any sum that may be lawfully retained under the provisions of this Specifications, General Contract, and Conditions to Construction Contracts and all such funds as may be due the COUNTY.
- 5. The COUNTY shall have the right, at its option, to discharge the CONTRACTOR for any breach of any provision of this Contract, and such discharge shall not affect the right of the COUNTY against sureties on the Bonds provided.
- 6. It is further mutually agreed between the parties hereto that if at any time after the execution of this Contract and the Surety Bonds attached hereto for its faithful performance, the COUNTY shall deem the surety or sureties upon such bond inadequate to cover the performance of the work, the CONTRACTOR shall, at its expense, within five (5) days after the receipt of notice from the COUNTY so to do, furnish as additional bond or bonds, in satisfactory amount to the COUNTY. In such event, no further payment to the CONTRACTOR shall be deemed due under this Contract until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the COUNTY.
- 7. CONTRACTOR further agrees to provide COUNTY an amount equal to _________(\$) Dollars per day for liquidated damages for each consecutive calendar day required for the completion of the contract beyond the time stipulated. (NOTE: If this paragraph is inapplicable, then N/A [not applicable] should be inserted in the applicable space.)

8. Other contract provisions, including but not limited to insurance provisions may be required to enter into a contract with Shelby County Government.

SECTION III. SPECIFIC PROVISIONS

The parties further agree as follows:

1. CONTROL

All Services by the CONTRACTOR will be performed in a manner satisfactory to the COUNTY, and in accordance with the generally accepted business practices and procedures of the COUNTY.

2. CONTRACTOR'S PERSONNEL

The CONTRACTOR certifies that it presently has adequate qualified personnel to perform all Services required under this Contract. All work performed during the Term of this Contract will be supervised by the CONTRACTOR. The CONTRACTOR further certifies that all of its employees assigned to serve the COUNTY have such knowledge and experience as required to perform the duties assigned to them. Any employee of the CONTRACTOR who, in the opinion of the COUNTY, is incompetent, or whose conduct becomes detrimental to the work, shall immediately be removed from association with the Services under this Contract.

3. INDEPENDENT STATUS

a. Nothing in this Contract shall be deemed to represent that the CONTRACTOR, or any of the Contractor's employees or agents, are the agents, representatives, or employees of the COUNTY. The CONTRACTOR will be an independent CONTRACTOR over the details and means for performing the Services under this Contract. Anything in this Contract which may appear to give the COUNTY the right to direct the CONTRACTOR as to the details of the performance of the Services under this Contract or to exercise a measure of control over the CONTRACTOR is solely for purposes of compliance with local, state and federal regulations and means that the CONTRACTOR will follow the desires of the COUNTY only as to the intended results of the scope of this Contract. b. It is further expressly agreed and understood by CONTRACTOR that neither it nor its employees or agents are entitled to any benefits which normally accrue to employees of the COUNTY; that CONTRACTOR has been retained by the COUNTY to perform the Services specified herein (not hired) and that the remuneration specified herein is considered fees for the Services performed (not wages) and that invoices submitted to the COUNTY by CONTRACTOR for the Services performed shall be on the Contractor's letterhead.

4. REPORTS

CONTRACTOR shall prepare and submit quarterly reports of its activities, funded under this Contract, to the originating department and the Contract Administration Department of the The reports shall include an itemization of the use COUNTY. of County's funds, inclusive of specific Services delivered. Any such reports provided to the COUNTY shall be prepared with the understanding that the COUNTY may make such reports available to the public. The quarterly reports and all books of account and financial records that are specific to the work performed in accordance with this Contract may be subject to audit by the Director of the Division of Administration and Finance of the COUNTY. The COUNTY shall have the right to withhold future disbursement of funds under this Contract and any future Contracts until this provision has been met.

5. TERMINATION OR ABANDONMENT

- a. It shall be cause for the immediate termination of this Contract if, after its execution, the COUNTY determines that:
 - i) Either the CONTRACTOR or any of its principals, partners or corporate officers, if a corporation, including the corporation itself, has plead nolo contendere, or has plead or been found guilty of a criminal violation, whether state or federal, involving, but not limited to, governmental sales or purchases, including but not limited to the rigging of bids, price fixing, or any other collusive and illegal activity pertaining to bidding and governmental contracting; or
 - ii) CONTRACTOR has subcontracted, assigned, delegated,

transferred its rights, obligations or interests under this Contract without the County's consent or approval; or

- iii) CONTRACTOR has filed bankruptcy, become insolvent or made an assignment for the benefit of creditors, or a receiver, or similar officer has been appointed to take charge of all or part of CONTRACTOR assets.
- b. The COUNTY may terminate the Contract upon five (5) days written notice by the COUNTY or its authorized agent to the CONTRACTOR for Contractor's failure to provide the Services specified under this Contract.
- This Contract may be terminated by either party by giving с. thirty (30) days written notice to the other, before the effective date of termination (the "Termination Date"). In the event of such termination, the CONTRACTOR shall be paid for all Services rendered prior to the Termination Date, provided the CONTRACTOR shall have delivered to COUNTY such statements, accounts, reports and other materials as required under this Contract; however, CONTRACTOR shall not be compensated for any anticipatory profits that have not been earned as of the date of the Termination Date. All Services completed by CONTRACTOR prior to the Termination Date shall be documented and tangible work documents shall be transferred to and become the sole property of the COUNTY prior to payment for the Services rendered.
- d. Notwithstanding the above or any section herein to the contrary, CONTRACTOR shall not be relieved of liability to the COUNTY for damages sustained by the COUNTY by virtue of any breach of the Contract by CONTRACTOR and the COUNTY may withhold any payments to CONTRACTOR for the purpose of setoff until such time as the exact amount of damages due the COUNTY from CONTRACTOR is determined.

6. COMPENSATION FOR CORRECTIONS

No compensation shall be due or payable to CONTRACTOR pursuant to this Contract for any Contractor's Services performed by the CONTRACTOR in connection with effecting of corrections to the design of the Services, when such corrections are required as a direct result of negligence by the CONTRACTOR to properly fulfill any of his obligations as set forth in this Contract.

7. SUBCONTRACTING, ASSIGNMENT OR TRANSFER

- a. Any subcontracting, assignment, delegation or transfer of all or part of the rights, responsibilities, or interest of either party to this Contract is prohibited unless by written consent of the other party. No subcontracting, assignment, delegation or transfer shall relieve the CONTRACTOR from performance of the Services under this Contract. The COUNTY shall not be responsible for the fulfillment of the Contractor's obligations to its transferors or subcontractors.
- b. Upon the request of the other party, the subcontracting, assigning, delegating or transferring party shall provide all documents evidencing the subcontract, assignment, delegation or transfer.

8. CONFLICT OF INTEREST

The CONTRACTOR covenants that it has no public or private interest, and will not acquire directly or indirectly any interest, which would conflict in any manner with the performance of the Services. The CONTRACTOR warrants that no part of the total Contract Fee shall be paid directly or indirectly to any officer or employee of the COUNTY as wages, compensation, or gifts in exchange for acting as officer, agent, employee, subcontractor or consultant to the CONTRACTOR in connection with any work contemplated or performed relative to this Contract.

9. CONTINGENT FEES

The CONTRACTOR warrants that it has not employed or retained any company or person other than a bona fide employee working solely for the CONTRACTOR, to solicit or secure this Contract, and that it has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONTRACTOR any fee, commission, percentage, brokerage fee, gift, or any other consideration contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, the COUNTY will have the right to recover the full amount of such fee, commission, percentage, brokerage fee, gift, or other consideration.

10. EMPLOYMENT OF COUNTY WORKERS

The CONTRACTOR will not engage, on a full, part-time, or any other basis during the Term of the Contract, any professional

or technical personnel who are or have been at any time during the Term of the Contract in the employ of the COUNTY.

11. ACCESS TO RECORDS

During all phases of the work and Services to be provided hereunder, CONTRACTOR agrees to permit duly authorized agents and employees of the COUNTY to enter Contractor's offices for the purpose of inspections, reviews, and audits during normal working hours. Reviews may also be accomplished at meetings that are arranged at mutually agreeable times and places. The CONTRACTOR will maintain all books, documents, papers, accounting records, and other evidence pertaining to the Fee paid under this Contract and make such materials available at their offices at all reasonable times during the Term of this Contract and for three (3) years from the date of payment under this Contract for inspection by the COUNTY or by any other governmental entity or agency participating in the funding of this Contract, or any authorized agents thereof. Copies of said records shall be furnished to the COUNTY upon request.

12. ARBITRATION

Any dispute concerning a question of fact in connection with the work not disposed of by agreement between the CONTRACTOR and the COUNTY will be referred to the Shelby County Contract Administrator or its duly authorized representative, whose decision regarding same will be final.

13. RESPONSIBILITIES FOR CLAIMS AND LIABILITIES

- a. CONTRACTOR shall indemnify, defend, save and hold harmless the COUNTY, and its elected officials, officers, employees, agents, assigns, and instrumentalities from and against any and all claims, liability, losses or damages-including but not limited to Title VII and 42 USC 1983 prohibited acts-arising out of or resulting from any actions omissions; conduct; whether or whether intentional, unintentional, or negligent; whether legal or illegal; or otherwise that occur in connection with or in breach of this Contract or in the performance of the Services hereunder, whether performed by the CONTRACTOR its subcontractors, agents, employees or assigns. This indemnification shall survive the termination or conclusion of this Contract.
- b. CONTRACTOR expressly understands and agrees that any

insurance protection required by this Contract or otherwise provided by the CONTRACTOR shall in no way limit the responsibility to indemnify, defend, save and hold harmless the COUNTY or its elected officials, officers, employees, agents, assigns, and instrumentalities as herein provided.

- c. The COUNTY has no obligation to provide legal counsel or defense to CONTRACTOR or its subcontractors in the event that a suit, claim or action of any character is brought by any person not a party to this agreement against CONTRACTOR as a result of or relating to performance of the Services under this Contract.
- d. Except as expressly provided herein, the COUNTY has no obligation for the payment of any judgment or the settlement of any claims against CONTRACTOR as a result of or relating to performance of the Services under this Contract.
- e. CONTRACTOR shall immediately notify the COUNTY of any claim or suit made or filed against CONTRACTOR or its subcontractors regarding any matter resulting from or relating to Contractor's performance of the Services under this Contract and will cooperate, assist and consult with the COUNTY in the defense or investigation thereof.

14. GENERAL COMPLIANCE WITH LAWS

- a. The CONTRACTOR certifies that it is qualified or will take steps necessary to qualify to do business in the State of Tennessee and that it will take such action as, from time to time, may be necessary to remain so qualified and it shall obtain, at its expense all licenses, permits, insurance, and governmental approvals, if any, necessary to the performance of the Services under this Contract.
- b. The CONTRACTOR is assumed to be familiar with and agrees that at all times it will observe and comply with all federal, state, and local laws, ordinances, and regulations in any manner affecting the performance of the Services. The preceding shall include, but is not limited to, compliance with all Equal Employment Opportunity laws, the Fair Labor Standards Act, Occupational Safety and Health Administration (OSHA) requirements, and the Americans with Disabilities Act

(ADA).

c. This Contract will be interpreted in accordance with the laws of the State of Tennessee. By execution of this Contract, the CONTRACTOR agrees that all actions, whether sounding in contract or in tort, relating to the validity, construction, interpretation and enforcement of this Contract will be instituted and litigated in the courts of the State of Tennessee, located in Shelby County, Tennessee, and in no other. In accordance herewith, the parties to this Contract submit to the jurisdiction of the courts of the State of Tennessee located in Shelby County, Tennessee.

15. NON-DISCRIMINATION

The CONTRACTOR hereby agrees, warrants, and assures compliance with the provisions of Title VI and VII of the Civil Rights Act of 1964 and all other federal statutory laws which provide in whole or in part that no person shall be excluded from participation or be denied benefits of or be otherwise subjected to discrimination in the performance of this Contract or in the employment practices of the CONTRACTOR on the grounds of handicap and/or disability, age, race, color, religion, sex, national origin, or any other classification protected by federal, Tennessee State Constitutional or statutory law. The CONTRACTOR shall upon request show proof of such non-discrimination and shall post in conspicuous places available to all employees and applicants notices of nondiscrimination.

16. ENTIRE AGREEMENT

This Contract represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations or agreements, whether oral or written.

17. AMENDMENT

This Contract may be modified or amended only by written instrument signed by both parties.

18. SEVERABILITY

If any provision of this Contract is held to be unlawful, invalid or unenforceable under any present or future laws, such provision shall be fully severable; and this Contract shall then be construed and enforced as if such unlawful, invalid or unenforceable provision had not been a part hereof. The remaining provisions of this Contract shall remain in full force and effect and shall not be affected by such unlawful, invalid or unenforceable provision or by its severance here from. Furthermore, in lieu of such unlawful, invalid, or unenforceable provision, there shall be added automatically as a part of this Contract a legal, valid and enforceable provision as similar in terms to such unlawful, invalid or unenforceable provision as possible.

19. NO WAIVER OF CONTRACTUAL RIGHT

No waiver of any term, condition, default, or breach of this Contract, or of any document executed pursuant hereto, shall be effective unless in writing and executed by the party making such waiver; and no such waiver shall operate as a waiver of either (a) such term, condition, default, or breach on any other occasion or (b) any other term, condition, default, or breach of this Contract or of such document. No delay or failure to enforce any provision in this Contract or in any document executed pursuant hereto shall operate as a waiver of such provision or any other provision herein or in any document related hereto. The enforcement by any party of any right or remedy it may have under this Contract or applicable law shall not be deemed an election of remedies or otherwise prevent such party from enforcement of one or more other remedies at any time.

20. MATTER TO BE DISREGARDED

This title of the several sections, subsections, and paragraphs set forth in this Contract are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of the provisions of this Contract.

21. SUBJECT TO FUNDING

This Contract is subject to annual appropriations of funds by the Shelby County Government. In the event sufficient funds for this Contract are not appropriated by Shelby County Government for any of its fiscal period during the Term hereof, then this Contract will be terminated. In the event of such termination, the CONTRACTOR shall be entitled to receive just and equitable compensation for any satisfactory work performed as of the Termination Date.

22. TRAVEL EXPENSES (If Applicable)

All travel expenses payable under this Contract shall be in accordance with the County Travel Policy and Procedures. This includes advance written travel authorization, submission of travel claims, documentation requirements, and reimbursement rates. No travel advances will be made by the County.

23. PERFORMANCE AND LABOR AND MATERIALS BONDS

CONTRACTOR will provide COUNTY within ten (10) days from inception date of this Contract a Performance and Labor and Materials Bond each in the amount of 100% of the Contract price for each year that this contract is in effect. Said Bonds may be pro-rated for the initial year in the event that this period of time is less than a full twelve (12) month period.

24. NON-LIABILITY FOR CONTRACTOR EMPLOYEE TAXES

Neither CONTRACTOR nor its personnel are County's employees, and COUNTY shall not take any action or provide Contractor's personnel with any benefits and shall have no liability for the following:

- a. Withholding FICA (Social Security) from Contractor's payments;
- b. Making state or federal unemployment insurance contributions on behalf of CONTRACTOR or its personnel;
- c. Withholding state and federal income tax from payment to CONTRACTOR;
- d. Making disability insurance contributions on behalf of CONTRACTOR;
- e. Obtaining workers' compensation insurance on behalf of CONTRACTOR or Contractor's personnel.

25. INCORPORATION OF OTHER DOCUMENTS

a. CONTRACTOR shall provide Services pursuant to this Contract in accordance with the terms and conditions set forth within the Shelby County Request for Proposals/Bids as well as the Response of CONTRACTOR thereto, all of which are maintained on file within the Shelby County Purchasing Department and incorporated herein by reference.

b. It is understood and agreed between the parties that in the event of a variance between the terms and conditions of this Contract and any amendment thereto and the terms and conditions contained either within the Request for Proposals/Bids or the Response thereto, the terms and conditions of this Contract as well as any amendment shall take precedence and control the relationship and understanding of the parties.

26. CONTRACTING WITH LOCALLY OWNED SMALL BUSINESSES

The CONTRACTOR shall take affirmative action to assure that Locally Owned Small Businesses that have been certified by the COUNTY are utilized when possible as sources of supplies and equipment, construction and services.

27. RIGHT TO REQUEST REMOVAL OF Contractor's EMPLOYEES

The COUNTY may interview the personnel CONTRACTOR assigns to County's work. COUNTY shall have the right, at any time, to request removal of any employee(s) of CONTRACTOR, whom COUNTY deems to be unsatisfactory for any reason. Upon such request, CONTRACTOR shall use all reasonable efforts to promptly replace such employee(s) with substitute employee(s) having appropriate skills and training.

28. INCORPORATION OF WHEREAS CLAUSES

The foregoing whereas clauses are herby incorporated into this Contract and made a part hereof.

29. DISCLOSURE OF REPORTS, DATA OR OTHER INFORMATION

Notwithstanding anything to the contrary contained herein or within any other document supplied to COUNTY by CONTRACTOR, CONTRACTOR understands and acknowledges that COUNTY is a governmental entity subject to the laws of the State of Tennessee and that any reports, data or other information supplied to COUNTY by CONTRACTOR due to Services performed pursuant to this Contract is subject to being disclosed as a public record in accordance with the laws of the State of Tennessee.

30. ORGANIZATION STATUS AND AUTHORITY

- a. CONTRACTOR represents and warrants that it is a corporation, limited liability company, partnership, or other entity duly organized, validly existing and in good standing under the laws of the state of Tennessee; it has the power and authority to own its properties and assets and is duly qualified to carry on its business in every jurisdiction wherein such qualification is necessary.
- b. The execution, delivery and performance of this Contract by the CONTRACTOR has been duly authorized by all requisite action and will not violate any provision of law, any order of any court or other agency of government, the organizational documents of CONTRACTOR, any provision of any indenture, agreement or other instrument to which CONTRACTOR is a party, or by which Contractor's respective properties or assets are bound, or be in conflict with, result in a breach of, or constitute (with due notice or lapse of time or both) a default under any such indenture, agreement or other instrument, or result in the creation or imposition of any lien , charge or encumbrance of any nature whatsoever upon any of the properties or assets.

31. INSURANCE REQUIREMENTS

- a. The CONTRACTOR shall purchase and maintain, in a company or companies licensed to do business in the State of Tennessee, such insurance as will protect the County from claims which may arise out of or result from the Contractor's operations under the Contract, whether such performed by himself operations are or bv anv subcontractors or by anyone directly or indirectly employed by any of them, or by anyone for whose acts the CONTRACTOR or subcontractor may be liable.
- The insurance required shall be written for not less than b. any limits of liability specified or required by law, whichever is greater. Shelby County Government, its elected officials, appointees and employees will be named as additional insured. All policies will provide for thirty (30) days written notice to COUNTY of cancellation or material change in coverage provided. The Contractor shall immediately notify Shelby county Government, Contract Administration, 160 N. Main Street, Suite 550, Memphis, Tennessee of cancellation or changes in any of the insurance coverage required. The CONTRACTOR will maintain throughout the life of this Contract insurance, through insurers rated A- or better by A.M. Best, in the

following minimum requirements:

- i) Commercial General Liability Insurance-\$1,000,000.00 limit per occurrence for bodily injury and property damage/\$1,000,000.00 personal injury/\$2,000,000.00 and advertising General Aggregate/\$2,000,000.00 Products-Completed Operations Aggregate. Shelby County Government, its officials, appointees, elected employees, volunteers, and members of boards, agencies, and commissions will be listed as additional insured regarding operations under this program. The insurance shall include coverage for the following:
 - a) Premises/Operations
 - b) Products/Completed Operations
 - c) Personal Injury
 - d) XCU coverage, where applicable
 - e) Contractual Liability
 - f) Independent Contractors
 - g) Broad Form Property Damage
 - h) When contract is awarded, the Contractor will be required to provide the County with a copy of the additional insured endorsement.
- ii) Business Automobile Liability Insurance -\$1,000,000.00 each accident for bodily injury and property damage. Coverage is to be provided on all:
 - a) Owned/Leased Autos
 - b) Non-owned Autos
 - c) Hired Autos
- iii) Workers Compensation and Employer's liability Insurance - All owners, sole proprietors, partners, and officers will elect to be covered by workers compensation coverage, regardless of requirement by Tennessee state status. Policy is to be specifically endorsed to include these individuals for coverage. Coverage is to include:
 - a. Employers Liability Coverage for \$1,000,000 per accident;
 - b. Employers Liability Disease each employee \$1,000,000; and
 - c. Employers Liability Disease Policy Limit

\$1,000,000

Note: The Contractor's workers compensation policy will include the following endorsement: WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT: (form WC 00 03 13) A completed copy of this form will be included in documents provided to Shelby County Government by Provider's insurance company.

- iv) Builders Risk Insurance or Installation Floater (as applicable) for project. - All risk coverage in the amount of replacement cost of the structure/equipment, which is to be built or installed.
- c. CONTRACTOR shall provide County with a current copy of the Certificate of Insurance at the time of contracting and shall maintain said insurance during the entire Contract period as well as provide renewal copies on each anniversary date. The certificate holder is to read:

Shelby County Government Purchasing Department 160 N. Main, Suite 550 Memphis, TN 38103

d. Self insured retentions or deductibles of \$25,000 or over per loss or claims must be reviewed and agreed to by Shelby County Government prior to commencement of work under this program.

All policies will provide for 30 day written notice to Shelby County of cancellation of coverage provided. Ten (10) days notice applicable to non-payment of premium. If insurer is not required by the policy terms and conditions to provide written notice of cancellation to Shelby County, the Contractor//Contractor will provide immediate notice to Shelby County.

32. NOTICE

Any notices required or permitted to be given under the provisions of this Contract shall be effective only if in writing and delivered either in person to the County's authorized agent or by First Class or U.S. Mail to the addresses set forth in the Contract, or to such other person or address as either party may designate in writing and deliver as herein provided.

33. <u>HIPAA (If applicable)</u>

CONTRACTOR warrants to the COUNTY and State that it is familiar with the requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and its accompanying regulations, and will comply with all applicable HIPAA requirements in the course of this Contract. CONTRACTOR warrants that it will cooperate with the COUNTY and State in the course of performance of the Contract so that all parties will be in compliance with HIPAA, including cooperation and coordination with COUNTY and State privacy officials and other compliance officers required by HIPAA and its regulations. CONTRACTOR will sign any documents that are reasonably necessary to keep the State and the COUNTY in compliance with HIPAA, including, but not limited to, business associate agreements.

It is agreed that the following documents are made a part of and incorporated fully into this construction Contract:

- 1. Performance Bond
- 2. Labor and Material Bond
- 3. Insurance Certificate
- 4. Bid Specifications (SB #_____, _____
- 5. Contractor's Bid/Proposal (Exhibit "A")
- 6. General Conditions to Contract (Exhibit "B")
- 7. List of subcontractors who will be performing work on project with attached required information per Exhibit "C"

NOTE: THE ABOVE DOCUMENTS MUST BE ATTACHED BEFORE EXECUTION OF THIS AGREEMENT BY SHELBY COUNTY.

SECTION 05500

METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shop fabricated pit ladder and comply with elevator code requirements.
- B. Any other steel work indicated on drawings.

1.02 RELATED SECTIONS

A. DIV 14 - Elevators

1.03 REFERENCES

- A. ASTM A36 Structural Steel.
- B. ASTM A53 Hot-Dipped, Zinc-coated Welded and Seamless Steel Pipe.
- C. ASTM A123 Zinc (Hot-Galvanized) Coatings on Products Fabricated From Rolled, Pressed and Forged Steel Shapes, Plates, Bars, and Strip.
- D. ASTM A153 Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- E. ASTM A283 Carbon Steel Plates, Shapes, and Bars.
- F. ASTM A307 Carbon Steel Externally Threaded Standard Fasteners.
- G. ASTM A325 High Strength Bolts for Structural Steel Joints.
- H. ASTM A386 Zinc-Coating (Hot-Dip) on Assembled Steel Products.
- I. ASTM A500 Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Round and Shapes.
- J. ASTM A501 Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
- K. ASTM B177 Chromium Electroplating on Steel for Engineering Use.
- L. AWS A2.0 Standard Welding Symbols.
- M. AWS D1.1 Structural Welding Code.
- N. SSPC Steel Structures Painting Council.

1.04 SUBMITTALS

- A. Submit under provisions of Division 1.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
- C. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.
- 1.05 QUALIFICATIONS
 - A. Prepare Shop Drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Tennessee.
 - B. Welders' Certificates: Submit under provisions of Division 1 certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.06 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on Drawings. Obtain certified prints for all mechanical equipment that will be through bolted to structure.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel Sections: ASTM A36.
- B. Pipe: ASTM A53, Schedule 40.
- C. Bolts, Nuts, and Washers: ASTM A325 galvanized to ASTM A153 for galvanized components.
- D. Welding Materials: AWS D1.1.
- E. Touch-Up Primer for Galvanized Surfaces: Zinc rich type.
- F. Provide industrial stair as specified on the drawings.

2.02 FABRICATION

- A. Fit and shop assemble in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FINISHES

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Galvanize in accordance with ASTM A123, structural steel members subject to foot traffic. Provide minimum 1.25 oz/sq ft galvanized coating.
- C. Apply 2 coats of primer to properly prepped steel surfaces, final painting by Section 09900.

PART 3 EXECUTION

- 3.01 EXAMINATION
 - A. Verify that field conditions are acceptable and are ready to receive work.
 - B. Beginning of installation means erector accepts existing conditions.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

3.03 INSTALLATION

- Α. Install items plumb and level, accurately fitted, free from distortion or defects.
- Β. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments. C.
- Field weld components indicated on Drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. Obtain Architect/Engineer approval prior to site cutting or making adjustments not scheduled.
- F. After erection, apply 2 heavy coats of cold galvanizing coating to cuts, nicks and welds, abrasions, and surfaces not galvanized.

3.04 ERECTION TOLERANCES

- Α. Maximum Variation From Plumb: 1/4 inch per 15 FT, non-cumulative.
- Maximum Offset From True Alignment: 1/4 inch. Β.

END OF SECTION

SECTION 14240 HYDRAULIC ELEVATORS

PART 1 GENERAL

- 1.01 SUMMARY
 - A. Section includes: Hydraulic elevator as shown or described. Elevator work includes:
 - 1. Modernization of hydraulic elevator #4.
 - 2. Add alternate for elevator#4 new car interior.
 - 3. New elevator car door and operator.
 - 4. New elevator pump/power unit, controller, control system to include fire service and
 - emergency battery lowering device.
 - 5. Accessibility provisions for physically disabled persons.
 - 6. Equipment, controls, systems and devices as required for safely operating the elevator at its rated speed and capacity.
 - 7. Seismic restraints for new controller and other equipment to provide structural support that will resist 0.50G horizontal force.
 - B. Related Sections:
 - 1. Division 5 Sections:
 - a. Provide new pit ladder.
 - b. Extend and modify pit ladders.
 - 2. Division 9 Sections:
 - a. Field painting unfinished and shop primed ferrous materials.
 - b. Painting Elevator hoistway jambs/headers and wall disturbed under this project from edge to edge.
 - 3. Division 15 Sections: Ventilation elevator equipment rooms.
 - 4. Division 16 Sections:
 - a. Extend existing electrical service to new elevator controller. Provide fused disconnects, raceways, conductors and interlock wiring.
 - b. Reconnect existing heat and smoke sensing devices and fire alarm contacts to signal elevator controllers.
 - c. Convenience outlets and illumination in machine room and pit.

1.02 SUBMITTALS

- A. Product data: Submit product data for the following:
 - 1. Pumping unit, rupture valve, piping, hoistway operating devices, pit switch, door and door operator and controls, hydraulic control system, emergency battery lowering device, controller, hall call stations, car control panel, in car call lantern, car top controller, and car interior.
- B. Shop drawings:
 - 1. Show equipment arrangement in the machine room with service clearances and seismic restraints from the tops of controllers to the building structure.
 - 2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 - 3. Show floors served, travel distances, and all similar considerations of the elevator work.

- 4. Indicate electrical power requirements and branch circuit protection device recommendations.
- 5. Hall call station(s) elevation, car control panel, car interior elevation, front, side and rear wall interior elevation.
- C. Color and finish selection: Submit color charts of exposed finishes and materials for color selection.
 - 1. Submit 3" x 3" samples of exposed finishes and materials selected for the elevator system materials and components.
- D. Certificates: Inspection and acceptance certificates of elevator system installation.
- E. Operation and maintenance data. Include the following:
 - 1. Operation and maintenance instructions.
 - 2. Parts list, with recommended parts inventory.

1.03 QUALITY ASSURANCE

- A. Manufacturer Qualifications: An approved manufacturer regularly engaged in manufacturing, installing, and servicing elevators of the type required for the project.
 - 1. The manufacturer of the machine, controller, signal fixtures, door operators cab, entrances, and all other major parts of the elevator operating equipment.
 - a. The major parts of the elevator equipment shall be manufactured in the United States, and not be an assembled system.
 - 2. The manufacturer shall have a documented, on-going quality assurance program.
- B. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than five years of satisfactory experience installing elevators equal in character and performance to the project elevators.
- C. Regulatory Requirements:
 - 1. ASME A17.1 Safety Code for Elevators and Escalators, latest edition or as required by the local building code.
 - 2 International Building Code.
 - 3. NFPA 70 2002 National Electrical Code.
 - 4. NFPA 80 Fire Doors and Windows.
 - 5. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
 - 6. ANSI A117.1-2004
- D. Fire-rated entrance assemblies: Opening protective assemblies including frames, hardware, and operation shall comply with ASTM E2074, CAN4-S104 (ULC-S104), UL10(b), and NFPA Standard 80. Provide entrance assembly units bearing 1-1/2 hour label by a Nationally Recognized Testing Laboratory
- E. Inspection and testing: Elevator Installer shall obtain and pay for all required inspections, tests, permits and fees for elevator installation. Arrange for inspections and make required tests. Deliver test reports to the Owner upon completion and acceptance of elevator work.
- 1.04 DELIVERY, STORAGE AND HANDLING
 - A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.

- H. Store materials in a dry protected area provided by the Owner. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- I. Parking access will be provided by the owner.

1.05 PROJECT CONDITIONS

- A. Use: Elevator is currently out of service and may be taken out of service for the duration of this project. Refer to the Division 1 requirements for additional information on working times and service interruptions.
- B. Painting:
 - 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 - 2. Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.

1.06 WARRANTY

A. Warranty: Submit elevator manufacturer's standard written warranty agreeing to repair, restore or replace defects in elevator work materials and workmanship not due to ordinary wear and tear or improper use or care for 12 months from date of Substantial Completion. Note that elevators will be put into beneficial use prior to the date of substantial completion. Provide maintenance service for all equipment that is put into service prior to the date of Substantial Completion.

1.07 MAINTENANCE SERVICE

- A. Furnish maintenance and call back service for a period of 12 months for elevator #4 from date of Substantial Completion. Service shall consist of periodic examination of the equipment, adjustment, lubrication, cleaning, supplies and parts to keep the elevators in proper operation.
 - 1. Maintenance work, including 24 hour, 365 day/year emergency repair service, shall be performed by trained employees of the elevator contractor. Provide monthly inspections and perform manufacturers recommended monthly maintenance during regular working hours. A trained service technician and fully equipped service truck shall respond within 3 hours to any emergency call.
 - 2. Submit parts catalog and show evidence of local parts inventory with complete list of recommended spare parts. Parts shall be produced by manufacturer of original equipment.
 - 3. Manufacturer shall have a service office and full time service personnel within 50 mile radius of the project site.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturer: ThyssenKrupp is used as the Basis of Design. The following manufacturers are allowed where they provide equal conforming products and features:
 - 1. Otis.
 - 2. Kone

- 3. Schindler
- 2.02 MATERIALS, GENERAL
 - A. Colors, patterns, and finishes: As selected by the Engineer from manufacturer's full range of standard colors, patterns, and finishes.
 - B. Steel:
 - 1. Shapes and bars: ASTM A 36.
 - 2. Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3. Finish: Factory-applied baked enamel.
 - C. Stainless steel:
 - 1. Shapes and bars: ASTM A 276, Type 300 (18-8).
 - 2. Tubing: ASTM A 269, Type 300 (18-8).
 - 3. Sheet:
 - D. Bronze:
 - 1. Drawn pipe: ASTM B 43, alloy UNS C23000, red brass.
 - 2. Sheet: ASTM B 36, alloy UNS C28000, muntz metal.
 - 3. Extrusions: ASTM B 455, alloy UNS C38500, bronze.
 - E. Aluminum:
 - 1. Sheet and plate: ASTM B 209, alloy 6063-T52.
 - 2. Extrusions: ASTM B 221, alloy 6063-T52.
 - F. Nickel silver: ASTM B 151 extrusions, alloy UNS No. C74500, polished finish.
 - G. Plastic laminate: Decorative high-pressure type, complying with NEMA LD3, Type GP-50 General Purpose Grade, nominal 0.050" thickness, over .
- 2.03 HOISTWAY EQUIPMENT
 - A. Car Frame: Reuse.
 - B. Guide Rail Assemblies: Reuse, inspect, align, shim, tighten and clean for a smooth and uniform rail system free of noticeable bumps or oscillation during travel.
 - C. Wiring: All new wiring for electrical devices associated with this project. Wiring includes but is not limited to hall call stations, in car call lanterns, pit emergency stop switch and traveling cable for the elevator car to controller connections. Provide all new control wiring, no existing control wiring may be reused.
 - D. Slides: Reuse.
 - E. Buffers: Reuse.
 - F. Jack: Reuse.

G. Counterweight: Remove or add weights as necessary to properly balance the modified car. Provide a counterweight derailing sensing mechanism designed to stop the car if the counterweight should derail.

H. Automatic Terminal Limits: Provide electric limit switches in the hoistway near the terminal landings. Limit switches shall cut off the electric current and stop the car if it runs beyond either terminal landing.

I. Automatic Self-Leveling: Provide elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for overtravel or undertravel. So that car stops within ¼" of finished floor. Self-leveling shall, within its zone, be automatic and independent of the operating device. The car shall be maintained approximately level with the landing irrespective of its load.

2.04 HOISTWAY ENTRANCES

- A. Doors and Frames: Reuse. The frames are a painted finish with cleaning and painting by general contractor. Doors are stainless steel, polish out scratches and return to satin finish.
- B. Interlocks: Equip each hoistway entrance with an approved type interlock tested as required by code. Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.
- C. Install new Hoistway Door Equipment Including:
 - 1. Complete interlock assemblies.
 - 2. Door track assemblies.
 - 3. Door hangers and rollers with upthrust rollers.
 - 4. Door closing devices.
 - 5. Fire Tabs.
 - 6. Door Gibbs.
- D. Hoistway Sills: Remove, clean, straighten, remove any defects that could affect door operation, reinstall and polish. Replace any defective sills. Sills with no defects may remain in place and be cleaned and polished only.

2.05 CAR ENCLOSURE

- A. Car Interior: Existing to remain. Provide new stainless steel car front to accept new car operating panel. Field verify dimensions.
- B. Car Interior Additive Alternate #1: Remove and replace the existing car interior as noted below:
 - Walls (rear and side walls): Plastic laminate vertical panels from manufacturers premium grade selection bonded to a flame retardant wood substrate
 - 2. Canopy: Reuse refurbish emergency exits as necessary to meet current code. Finish: Two coats reflective baked enamel.
 - 3. Ceiling: Drop ceiling with anodized aluminum frame, translucent acrylic light diffuser panels, two new 2 lamp T8 fluorescent strip fixtures, lamps and wiring. Provide access to car top access hatch.
 - 4. Provide new stainless steel car front to accept new car control station and indicators. Field verify dimensions.
 - 5. Doors: New stainless steel single slide elevator car door.

- a. Cab Sills: Clean and polish.
- 6. Handrail: Cylindrical, 1.5" dia, stainless steel no. 4. Provide at rear walls.
- 7. Ventilation: Two speed exhaust fan mounted on the car top.
- 8. Pad Buttons: Provide pad buttons on cab front(s) and walls.
 - a. Provide one set of vinyl protection pads.
- 9. Base: Brushed Stainless Steel finish.
- 10. Finished Floor: Existing to remain.
- C. Car Top Inspection Station: Provide a car top inspection station with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator. Mount the car top inspection station in the door operator assembly.
- D. In Car Call Lantern and Chime: Provide an ADA compliant directional lantern visible from the corridor. When the car stops and the doors are open the lantern shall indicate the direction in which the car is traveling and a chime shall sound. Chime shall sound once for UP and twice for DOWN. As the car travels, the chime shal sound in the car to tell a passenger that the car is either stopping or passing a floor served by the elevator.
- E. Car Top Guard Rail: Provide a car top guard rail as required by code.
- F. Provide new toe guard on car platform conforming to current code requirements.

2.06 DOOR OPERATION

- A. Door Operation: Doors on the car and at the hoistway entrances shall be power operated by means of a closed loop door operator mounted on top of the car. The motor shall have positive control over door movement for smooth operation. Each car door shall have an electronic detector edge to cause instant reopening should contact be made with an obstruction during the closing cycle. Door movements shall be electrically cushioned at both limits of travel and the door operating mechanism shall be arranged for manual operation in event of power failure. Doors shall automatically open when the car arrives at the landing and automatically close after an adjustable time interval or when the car is dispatched to another landing.
 - 1. No Un-Necessary Door Operation: Car door shall open only if the car is stopping for a car or hall call, answering a car or hall call at the present position or selected as the next car up.
 - 2. Door Open Time Saver: If a car is stopping in response to a car call assignment only (no coincident hall call), the current door hold open time is changed to a shorter field programmable time when the electronic door protection device is activated.
 - 3. Double Door Operation: When a car stops at a landing with concurrent up and down hall calls, no car calls, and no other hall call assignments, the car door opens to answer the hall call in the direction of the car's current travel. If an onward car call is not registered before the door closes to within 6 inches of fully closed, the travel will reverse and the door will reopen to answer the other call.
 - 4. Nudging Operation: The doors shall remain open as long as the electronic detector senses the presence of a passenger or object in the door opening. If door movement is obstructed for a field programmable time, a buzzer will sound and the doors will close at reduced speed. If the infra-red door protection system detects a person or object while closing, the doors will stop and resume closing after the obstruction has been removed.

- 5. Limited Door Reversal: If the doors are closing and an infra-red beam is interrupted, the doors will reverse and reopen partially. After the obstruction is cleared, the doors will begin to close.
- 6. Door Open Watchdog: If the doors are opening, but do not fully open after a field adjustable time, the doors will recycle closed then open six times to try and correct the fault.
- 7. Door Close Watchdog: If the doors are closing, but do not fully close after a field adjustable time, the doors will recycle open then close six times to try and correct the fault.
- 8. Door Close Assist: When the doors have failed to fully close and are in the recycle mode, the door drive motor shall have increased torque applied to possibly overcome mechanical resistance or differential air pressure and allow the door to close.
- B. Door Hanger and Tracks: New.
 - 1. Sheaves: New Polyurethane tires with ball bearings sealed to retain grease.
 - 2. Hangers: Provide an adjustable slide to accommodate the up-thrust of the doors.
- C. Door Protection Device: Provide a door protection system using 150 or more microprocessor controlled infra-red light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.

2.07 CAR OPERATING PANEL

- A. Car Operating Panel, General: The main car control in shall contain all the devices required for specific operation mounted in a stainless steel no. 4 satin finish panel. The panel shall consist of a series of rows of operating devices. All buttons to be of the vandal resistant type. Phase II fire instructions, Elevator #4, "NO SMOKING", and capacity in pounds are to be engraved or silk screened on the car operating panel.
 - 1. The lowest row shall contain the "door open," "door close," "alarm" buttons and a keyed "emergency stop" switch.
 - 2. Intermediate rows shall contain floor buttons which illuminate when a call is registered and remain illuminated until the call is answered. Raised floor indications and handicap symbols shall be located immediately adjacent to the floor buttons and be fully integrated in the panel design. No applied symbols or floor indications or symbols on the buttons shall be permitted.
 - 3. The next row shall contain required switches.
 - 4. The top row shall contain fire service features in accordance with ASME A17.1, Rule 211.3, including operating instructions.
 - 5. Car operating panel shall contain all necessary operating components, buttons, switches, and Fireman's service Cabinet as required by ANSI A17.
 - 6. Handicap markings, braille plates shall be furnished for car buttons, controls and hoistway entrance jambs in compliance with NEII and ADA handicap requirements.
 - 7. ADA approved telephone shall be provided and mounted behind the car operating panel. A pattern of holes for speaker shall be punched into the car operating panel faceplate. Necessary wires shall be included in the car traveling cable.
- B. Position Indicator: An electronic dot matrix position indicator shall be provided and mounted in upper part of the COP. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.

- C. Emergency Power Unit: An emergency light and capacity plate shall be integrated into the upper part of the COP. Emergency light shall illuminate automatically upon loss of the building's normal power supply and provide current to the alarm bell. The equipment shall comply with the requirements of ANSI Code.
- D. Emergency Communications System: Provide an emergency communications device mounted in the COP faceplate. Emergency communications device shall comply with Americans with Disabilities Act (ADA) requirements.
- E. Auxiliary Operating Panel: not applicable in this application.
- F. Special Accessories:
 - 1. Independent service switch.
 - 2. Inspection switch.
 - 3. Two speed fan/light switch.
 - 4. Telephone jack.
 - 5. Certificate frame.
 - 6. Nominal 3" x 5" smoked glass panel for use with a proximity card sensor.
 - 7. English announcements of all floor stops.
- 2.08 CONTROL SYSTEMS
 - B. Controller: The elevator control system shall be a Simplex Collective Operation using non-proprietary microprocessor-based controller, including a SOFT START pump motor starter of adequate size together with all relays, switches and hardware required to accomplish the operation specified. The system shall operate in real time, continuously analyzing the car's changing position, condition, and work load. Control of the elevator shall be automatic in operation by means of push buttons in the car numbered to correspond to floors served, for registering car stops, and by "up-down" push buttons at each intermediate landing and "call" push buttons at terminal landings.
 - 1. Momentary pressing of one or more buttons shall dispatch the car to the designated landings in the order in which the landings are reached by the car, irrespective of the sequence in which the buttons are pressed. Each landing call shall be canceled when answered.
 - 2. When the car is traveling in the up direction, it shall stop at all floors for which car buttons or "up" hall buttons have been pressed. The car shall not stop at floors where "down" buttons have been pressed, unless the stop for that floor has been registered by a car button or unless the down call is at the highest floor for which any buttons have been pressed. Pressing the "up" button when the car is traveling in the down direction shall not intercept the travel unless the stop for that floor has been registered by a car button or unless the up call is the lowest for which any button has been pressed.
 - 3. When the car has responded to its highest or lowest stop, and stops are registered for the opposite direction, its direction of travel shall reverse automatically and it shall then answer the calls registered for that direction. If both up and down calls are registered at an intermediate floor, only the call corresponding to the direction of car travel shall be canceled upon the stopping of the car at the landing.
 - 4. A car that is stopping for the last hall call in the preference direction, and that hall call is for the opposite direction with no onward car calls, shall reverse preference when the selector position advances to the landing at which the car is committed to stop. A car that is stopping for the last hall call in the preference direction, and that hall call is for the same direction, shall hold its preference until the door is almost closed allowing time for a passenger to register an onward car call which will

maintain the preference. If no car call is registered before the door is almost closed, the car will lose its preference and shall be available to accept calls in either direction.

- 5. A Car Stall Protective Circuit shall be provided which will stop the motor and the pump and return the car to its lowest landing in the event that the car, while traveling up, does not reach its designated landing within a predetermined time interval. This circuit shall permit a normal exit from the car but prevent further operation of the elevator until the trouble has been corrected.
- C. Load Weighing Device: Provide a load weighing device at elevator car which, when the particular car is filled to an adjustable percentage of the capacity load, shall cause the car to bypass landing calls but not car calls. The passed landing calls shall remain registered. The device shall detect a 15 pound (7 Kg.) load change under all conditions.
 - 1. The load sensor shall use a linear variable differential transformer to accurately measure the weight in the car. The information shall be transferred via a serial link to the elevator controller.
- D. Anti-Nuisance Call Control: The microprocessor control system shall evaluate the number of people on the car and compare that value to the number of car calls registered. If the number of car calls exceeds the number of people by a field programmable value, the car calls shall be canceled after the first call has been answered.
- E. Position Selector: The position selector shall be part of the microprocessor system. The car position in the hoistway shall be digitized through a primary position encoder. The microprocessor control system shall store the floor position and slow down points in memory.
- F. Emergency Battery Lowering Device: An emergency battery lowering system is to be installed to provide for evacuation of passengers by opening the doors if the elevator is located at a landing or lowering the elevator to the next landing and opening the doors one (1) time for passengers to exit.
 - a. The emergency battery lowering device shall be interlocked with an auxiliary contact located inside the main line disconnect to alert the emergency lowering device that a power failure has not occurred, rather the main line disconnect has been disengaged for service.

1.01 PUMPING UNIT

- A. Power Unit (Oil Pumping and Control Mechanism): A self-contained unit consisting of the following items:
 - 1. Oil reservoir with tank cover.
 - 2. An oil hydraulic pump.
 - 3. An electric motor.
 - 4. Oil control valve with the following components built into single housing; high pressure relief valve, check valve, automatic unloading up start valve, lowering and leveling valve, and electro-magnetic controlling solenoids.
- B. Pump: Positive displacement type pump specifically manufactured for oil-hydraulic elevator service. Pump shall be designed for steady discharge with minimum pulsation to give smooth and quiet operation. Output of pump shall not vary more than 10 percent between no load and full load on the elevator car.
- C. Motor: Premium efficiency motor specifically designed for oil-hydraulic elevator service. Duty rating shall be selected for specified speed and load.
- D. Storage tank: Storage tank shall be constructed of 10-gauge steel and shall be provided

with a removable cover containing a removable oil dip stick.

- a. The pump and submersible motor shall be mounted on a special reinforced isolation mount in the bottom of the tank.
- b. The control valve shall be mounted in the discharge line above the oil level and easily accessible from the top of the tank.
- c. The control valve shall be mounted in the discharge line above he oil level and easily accessible from the top of the tank.
- d. The supply of oil sufficient for proper operation shall be provided.
- E. Control System: Shall be microprocessor based and protected from environmental extremes and excessive vibrations in a NEMA 1 enclosure.
- F. Oil Control Unit: The following components shall be built into a single housing. Welded manifolds with separate valves to accomplish each function are not acceptable. Adjustments shall be accessible and be made without removing the assembly from the oil line.
 - 1. Relief valve shall be externally adjustable and be capable of bypassing the total oil flow without increasing back pressure more than 10 percent above that required to barely open the valve.
 - 2. Up start and stop valve shall be adjustable and designed to bypass oil flow during start and stop of motor pump assembly. Valve shall close slowly, gradually diverting oil to or from the jack unit, ensuring smooth up starts and up stops.
 - 3. Check valve shall be designed to close quietly without permitting any perceptible reverse flow.
 - 4. Lowering valve and leveling valve shall be adjustable for down start speed, lowering speed, leveling speed and stopping speed to ensure smooth "down" starts and stops. The leveling valve shall be designed to level the car to the floor in the direction the car is traveling after slowdown is initiated.
- G. Solid State Starting: Provide an electronic starter featuring adjustable starting currents.
- H. Oil Type: USDA certified biobased product, ultra low toxicity, readily biodegradable, energy efficient, high performing fluid made from canola oil with antioxidant, anticorrosive, antifoaming, and metal-passivating additives. Especially formulated for operating in environmentally sensitive areas. USDA certified biobased product, >90% bio-based content, per ASTM D6866. Rupture Valve: Rupture valve to stop the flow of oil from the cylinder in the event of a feedline rupture.
- I. Low Pressure Switch
- J. Tank shut-off valves
- 5.01 Hydraulic Control System: The hydraulic control system shall be of compact design suitable for operation under the required pressures and it shall be mounted in the storage tank. Control valve shall be manifold with up, down and check valve sections. A control section including solenoid valves will direct the main valve and control up and down starting, transition from full speed to leveling speed, up and down stops, pressure relief and manual lowering. Down speed and up and down leveling shall be controlled at the main valve sections. Functions shall be fully adjustable for maximum smoothness and to meet contract conditions. Manual lowering feature shall permit lowering the elevator at slow speed in the event of power failure or for adjusting purposes.
- 2.11 HALL STATIONS
 - A. Hall Stations: New in existing location to conceal old wall surfaces, but with signage, HYDRAULIC ELEVATORS - Section 14240 Page 10

elevation and tactile feedback to comply with accessibility code requirements. Buttons shall have a tactile feedback and illuminate to indicate that a call has been registered at that floor for the indicated direction. Faceplates shall be stainless steel no. 4, surface mounted, vandal resistant type. Elevator #4 requires one station per floor served.

- 1. Each terminal station shall contain one illuminating push button.
- 2. Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down direction.
- 3. Phase 1 fire fighters service key switch, with instructions, shall be incorporated into the hall station at the designated fire return floor in accordance with fire officials requirements.
- B. Floor Identification Pads: Provide door jamb pads at each floor. Jamb pads shall comply with Americans with Disabilities Act (ADA) requirements.

2.12 MISCELLANEOUS ELEVATOR COMPONENTS

A. Oil Hydraulic Silencer: Install an oil hydraulic silencer (muffler device) at the power unit location. The silencer shall contain pulsation absorbing material inserted in a blowout proof housing arranged for inspecting interior parts without removing unit from oil line.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Prior to Bid inspect hoistways, cars, jambs, platforms, rails, rail supports, doors, car enclosures, pits, jack, hydraulic piping, counterweights and all other elevator accessories that could impact the performance of this elevator modernization project. Allow for correction of any unsatisfactory conditions in the Bid or submit a notice to the Engineer no less than 5 business days prior to the Bid requesting clarification on any particular item of concern. Bidder assumes the responsibility for meeting all safety, maintenance and service clearances in the existing machine rooms, pits and hoistways.
- B. By submitting a Bid the Bidder accepts the existing conditions and responsibility for satisfactory completion of a fully compliant elevator modernization project.

3.02 INSTALLATION

- A. Remove and replace all elevator components associated with this project and coordinate with other trades and all code officials.
 - 1. Work shall be performed by competent elevator installation personnel in accordance with ASME A17.1, manufacturer's installation instructions and approved shop drawings.
 - 2. Comply with the National Electrical Code for electrical work required during installation.
 - 3. Comply with the requirements of state and local officials in implementing this work to comply with the requirements of these code officials.
- B. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
- C. Perform a thorough cleaning of the hoistway and pit to remove all accumulated dust HYDRAULIC ELEVATORS - Section 14240 Page 11

and soiling by contact vacuuming.

- D. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn parts. Comply with AWS standards for workmanship and for qualification of welding operators.
- E. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid project milestones and completion delays.
- F. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
- G. Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.
- H. Alignment: Perform final adjustment of sills and doors after renovated car is operable in shaft, counterweight work completed and all rail guides have been adjusted. Reduce clearances to minimum safe, workable dimensions at each landing.
- I. Set sill units accurately aligned and slightly above finish floor at landings.
- J. Lubricate operating parts of system, including ropes, as recommended by the manufacturer.
- K. Field verify path for equipment installation. Feild verify door opening widths and corridor widths. Coordinate with General Contractor to remove/reinstall doors and door frames as required for installation. Allow for disassembly/reassembly of power/pumping unit as required for installation power/pump unit.

3.03 FIELD QUALITY CONTROL

- A. Acceptance testing: Upon completion of the elevator installation and before permitting use of elevator, perform acceptance tests as required and recommended by Code and governing regulations or agencies and as required by A17.1. Perform other tests, if any, as required by governing regulations or agencies.
- B. Advise Owner, Contractor, Engineer, and governing authorities in advance of dates and times tests are to be performed on the elevator.
- 3.04 ADJUSTING
 - A. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.

3.05 CLEANING

A. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.

B. At completion of elevator work, remove tools, equipment, and surplus materials from site. Clean equipment rooms and hoistway of all dirt and debris from all sills, dust covers, divider beams, ledges, pit floor and car top. Remove trash and debris.

3.06 PROTECTION

A. At time of Substantial Completion of elevator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect elevator work from damage or deterioration. Maintain protective measures throughout remainder of construction period.

3.07 DEMONSTRATION

- A. Instruct Owner's personnel in proper use, operations, and daily maintenance of elevators. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
- B. Make a final check of each elevator operation, with Owner's personnel present, immediately before date of substantial completion. Determine that control systems and operating devices are functioning properly.

2.08 ELEVATOR SCHEDULE

- A. Elevator Qty. One total designated Elevator #4
- 1. Elevator type: Oil Hydraulic Passenger
- 2. Rated Capacity: 2500 pounds.
- 3. Speed: 100 feet per minute
- 4. Control: Microprocessor
- 5. Operation System: Simplex
- 6. Travel: 22' 4" verify.
- 7. Openings in line at front of hoistway.
 - a. Front: 3
 - b. Rear: 0
- 8. Clear Car Inside: Existing.
- 9. Cab Height: Existing.
- 10. Entrance Size: 36" wide by 84" tall.
- 11. Door Type: Single Side Slide.
- 12. Door Operation: Automatic Closed loop.
- 13. Power Characteristics: 208 volts, 3 Phase, 60 Hz.
- 14. Seismic requirements for zone 4.
- 15. Add Alternate #1 for new car interior.
- 16. ADA telephone behind perforated speaker.
- 17. Infrared curtain unit door protection.
- 18. Emergency battery lowering device.
- 19. Emergency lighting integral to car operating panel.
- 20. Braille plates
- 21. Audible signals

DIVISION 16 - ELECTRICAL SECTION 16010

GENERAL PROVISIONS

PART 1 - GENERAL

DIVISION 16000 INDEX

Section 16010 - General Provisions

16110 - Raceways
16121 - Conductors
16130 - Outlet, Pull, and Junction Boxes
16140 - Wiring Devices
16170 - Safety Switches
16190 - Supporting Devices and Hangers
16450 - Grounding
16510 - Lighting and Lamps

1.01 WORK INCLUDED

- A. Provide new electrical power circuit to feed new Elev#4 controller.
- B. Provide new branch circuits to new lighting, receptacles, HVAC and Elevator equipment. All associated raceways, wiring, connections to new equipment, feeders, circuit breakers, disconnects, relays, enclosures and accessories for a complete and operable system.
- C. Interlock existing fire alarm control relays and device to provide elevator recall and alternate floor recall. Remove old abandoned fire alarm devices.
- D. Penetrations, excavation, backfill and restoration of disturbed area for electrical work.
- C. Temporary electrical service and distribution to support construction activities. Removal of all abandoned electrical raceways, supports, enclosures, gear and accessories.
- D. Wiring devices. Lighting, lamps, ballasts, contactors, interlocks, pull boxes, switches, hangers and accessories including lamps.
- E. Coordination with and electrical service support of the new elevator equipment. Details of the equipment will be furnished by the successful elevator vendor and there will be adjustments in the equipment configuration shown based on shop drawings from the elevator vendor. Allow for deviations in equipment arrangement within the equipment rooms. The Contract amount will not be adjusted due to these changes.
- F. All 120 VAC or higher power and interlock wiring that is required by code to be performed by a licensed electrician. The manufacturers shop drawings on

Owner Furnished Contractor Installed equipment must be referred to in order to complete this work and these will not be available until submittals have been approved.

- G. Motor starters/controllers, where shown, are both furnished and installed by this Division. Where equipment is shown with a power circuit only it is supplied with integral disconnects and motor controller.
- H. Data, telephone, and communication raceways. Interior provisions include, but are not limited to: data/com openings and raceways to accessible ceiling, fire alarm openings and raceways.
- I. Wiring, raceway, terminations, programming and components to expand the existing Simplex fire alarm system for elevator recall interface. Provide devices, relays, appliances and other components as needed to satisfy all code requirements associated with expansion of the fire alarm system to interface with and control the elevator.

1.02 RELATED WORK REQUIRED UNDER THIS DIVISION

- A. Division 0 Contract Requirements
 Division 1 General Requirements
 Division 14 Traction Elevator Modernization
 Division 15 Mechanical Work
- B. Flashing of conduits into roofing and outside walls. Support structure for gear, raceways and accessories including strut, structural steel, foundations and pads for equipment furnished under this Division of the specifications.
- C. Cutting and patching for electrical work.
- 1.03 OWNER'S REPRESENTATIVE
 - A. Where the term "Owner's Representative" is used throughout this specification it shall be interpreted to be the Architect/Engineer.
- 1.04 QUALITY ASSURANCE
 - A. Comply with applicable local, state, and federal codes.
 - B. Electrical work shall be guaranteed against faulty material or workmanship for a period of one year from the date of final acceptance. If the project is occupied or the systems placed into operation in several phases at the request of the Owner, then the guarantee of each system or piece of equipment used, shall begin on the date each system or piece of equipment was placed in satisfactory operation and accepted as such, in writing, by the Owner. The use of building equipment for temporary service and testing prior to Owner acceptance does not constitute the beginning of the warranty.
 - C. Equipment and material provided under this Division shall be periodically inspected and serviced by competent mechanics. This function becomes the

responsibility of the Owner when the system is accepted by the Owner. The one year material and workmanship guarantee is not intended to supplant normal inspection or service and shall not be construed to mean the Contractor will provide free service for normal maintenance items such as periodic lubrication and adjustment due to normal use, nor to correct without charge, breakage, maladjustment, and other trouble caused by improper maintenance.

D. Any electrical equipment provided under this division shall be turned over to the Owner in lubricated, tested and ready to use condition. Instructions on care and maintenance of equipment shall be included in the operating instructions.

1.05 STANDARDS

- A. Perform work specified in Division 16 in accordance with standards listed below. Where these specifications are more stringent, they shall take precedence. In case of conflict, obtain a decision from the Engineer. Applicable edition date is the edition that is enforced by the state or local authority and includes all written amendments as well as any required, but not published policy requirements of the local/state authority.
 - 1. NFPA-70: National Electrical Code. (Applicable edition date).
 - 2. NFPA-72: National Fire Alarm Code. (Applicable edition date).
 - 3. Local Electrical Code. Local Ordinances pertaining to electrical work.
 - 4. NFPA-101: Life Safety Code (Applicable edition date).
 - 5. ANSI Handicapped Code-A117.1. (Applicable edition date).
 - 6. Applicable State Energy Code. (Applicable edition date).
 - 7. Applicable State Building Code. (Applicable edition date).

1.06 SUBMITTALS

- A. Within 14 days after the award of contract, submit for review to the Engineer complete list of materials, equipment, accessories and alternates submitted as equals by vendors proposed for use on the project together with costs for an evaluation to select supplier. This review shall be conducted prior to submission of shop drawings and product data.
- B. Brochures: Based on manufacturers selected under foregoing paragraph, contractor is to submit complete descriptions, illustrations, specification data, etc., of all materials, fittings, devices, fixtures, special systems, etc., as required by the individual sections of this chapter.
- C. When specifications list more than one manufacturer and do not say "or approved equal", furnish one of the manufacturers named.
- D. Shop drawing submittal and review are intended to show that the Contractor understands the design concept. Submittals demonstrate that the Contractor understands the materials and fabrication and construction methods to be used. Submittals are not intended to modify or change the contract documents.
- E. Shop drawings and submittals shall bear the stamp or approval of the Contractor

as evidence that they have been checked by him and certified as to having met the contract document requirements. Submittals without this stamp of approval will not be considered and will be returned for proper resubmission. If the submittals show variances from the requirements of the contract documents, the Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment; otherwise the Contractor shall not be relieved of the responsibility for executing the work in accordance with the Contract Documents.

- F. Shop Drawings: In addition to the above, submit four copies of shop drawings for major materials where called for or when requested by the Engineer for the following:
 - 1. Panelboards.
 - 2. Dimensioned layout of all electrical rooms, drawn to scale, with equipment location shown therein. Clearances to be in accordance with NEC and local codes.
- G. Panelboard, service equipment, etc., submittals will be rejected without dimensioned room layouts.
- H. Three sets of the following data are required:
 - 1. Operating and maintenance instructions.
 - 2. Spare parts lists.
 - 3. Copies of approved submittal data.
- I. Arrange each set of data in an orderly way, and bind each set in a separate 3ring, hard-cover binder.
- J. Within 14 days of the completion of the work, submit the five (5) complete sets of data to the Engineer.

1.07 DELIVERY AND STORAGE

- A. Insofar as possible, deliver items in manufacturer's original unopened packaging. Where this is not practical, cover items with protective materials to keep them from being damaged. Use care in loading, transporting, unloading, and storage to keep items from being damaged.
- B. Store items in a clean dry place and protect from damage.

1.08 RECORD DRAWINGS

- A. Keep a set of prints at the job site exclusively for recording deviations from the drawings which are necessary because of job conditions. Record locations and depths of buried and concealed conduits from fixed, easily identifiable objects, such as building walls. Where conduits are concealed in walls, indicate distances off of building corners or other building features not likely to be disturbed by future alterations. Mark deviations in colored pencils so that work of various systems can be easily identified.
- B. The Architect/Engineer will provide magnetic media floor plans for use by the

Contractor. The Contractor shall revise the magnetic media floor plans to depict "as-built" conditions and provide the Owner with both magnetic media and reproducible vellum plots with all deviations from the original plans depicted.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. All materials and equipment used in carrying out these specifications to be American made unless approved otherwise (by Owner) and to be new and have UL listing, or listing by other recognized testing laboratory when such listings are available. Specifications and drawings indicate name, type, or catalog numbers of materials and equipment to be used as "standards". Proposals shall be based on "standards" specified. The "standards" shall not be construed as limiting competition. Contractor may, subject to Engineer approval, use any materials and equipment to that specified.
- B. Equipment and materials furnished shall be listed by UL or other nationally recognized testing laboratory where available. When listing is not available for a piece of equipment, it will be accepted provided it is furnished in accordance with drawings and specifications and is approved by the authorities having jurisdiction.
- C. Specifications and drawings indicate name, type and/or catalog number of materials and equipment to establish standards of quality. Submittals shall be based on the standards specified. The standards should not be construed as limiting competition.

PART 3 - EXECUTION

3.01 COORDINATION

- A. Visit site and be informed of conditions under which work must be performed. No subsequent allowance will be made because of error or failure to obtain necessary information to completely estimate and perform work involved.
- B. Examine specifications and drawings to be familiar with items which require electrical connections and coordination. Electrical drawings are diagrammatic and shall not be scaled for exact sizes.
- C. Equipment shall be installed in accordance with manufacturer's recommendation. Where conflicts occur between Contract Documents and these recommendations, a ruling shall be requested of the Engineer for decision before proceeding with such work.
- D. Insofar as it is possible to determine in advance, advise masonry tradesman to leave proper chases and openings. Place all outlets, anchors, sleeves, and supports prior to pouring concrete or installation of masonry work. Should contractor neglect doing this, any cutting and/or patching required to be done is at this contractor's expense.

3.02 CUTTING AND PATCHING

- A. Repair or replace routine damage caused by cutting in performance of work under this Division.
- B. Correct unnecessary damage caused due to installation of electrical work, brought about through carelessness or lack of coordination.
- C. Holes cut through existing floor slabs to be core drilled with drill designed for this purpose. All openings, sleeves, and holes in slabs between floors to be properly sealed, fire proofed and water proofed.
- D. Repairs to be performed with materials which match existing materials and to be installed in accordance with appropriate sections of these specifications.
- E. Where raceways 1-1/4" through 4" trade size pass through one-hour fire-rated gypsum board walls, limit annular space to 1/4", fill annular space with 3M CP-25 firestop caulk and seal with a 1/4" bead of 3M CP-25 firestop caulk around perimeter (UL System 147A). If raceway is 1" or smaller, limit annular space to 3/16". Provide similar UL listed systems at penetrations of other fire ratings and wall types, submittals are required and must be approved by the Engineer.

3.03 FOUNDATIONS AND PADS

A. Foundations and pads are required for equipment and shall be provided under this Division unless indicated otherwise on plans. Proper size and location of foundations, pads, and anchor bolts shall be determined under this Division. Minimum of 3.5" thick concrete pad with welded wire reinforcing and a #4 bar offset 4" the full perimeter of the pad. Extend pad 6" beyond footprint of equipment and radius tool or chamfer 1" the top edge of curb. Rub out any voids and remove any spillage for a smooth and finished appearance.

3.04 TESTS

- A. On completion of work, installation shall be completely operational and entirely free from grounds, short circuits, and open circuits. Perform a thorough operational test in presence of Engineer. Balance circuits so that feeders to panels are not more than 10% out of balance between phases with all available load energized and operating. Furnish all labor, materials and instruments for above tests.
- B. Furnish the Owner, as a part of closing file, a copy of such tests including identification of each circuit and readings recorded, also the main service ground resistance test as described in Section 16450 of these specifications. Test information to be furnished to the Owner includes ampere readings of all panels and major circuit breakers and insulation resistance reading of motors.
- C. Prior to final observation and acceptance test all electrical systems and equipment shall be in satisfactory operating condition including, but not limited to the following:
 - 1. Electrical distribution system.
 - 2. Electric motors for all equipment.

- 3. Electrical safety devices.
- 4. Electrical control systems.
- 5. Lighting fixtures and lamps.
- 6. Fire alarm system.

3.05 FEES AND PERMITS

A. Obtain and pay for all necessary permits and inspection fees required for electrical installation.

3.06 IDENTIFICATION OF EQUIPMENT

- A. Properly identify all electrical equipment including service entrance equipment and individual devices on it. Panelboards, safety switches and disconnects, individually mounted circuit breakers, and relays, shall be marked with permanently attached black phenolic plates with 1/4" white engraved lettering on the face of each attached with two sheet metal screws. Starters, relays and fan coil unit disconnect switches connected under this Division shall be identified whether furnished under this Division or under other Divisions of this contract. Engraved tag shall indicate equipment served or designation of panel, panel and circuit number of source of service, and voltage e.g. "PANEL 2A, FED FROM EPH2:7,9,11, 480Y/277" or "AHU 6B, FED FROM H32:14,16,18, 480V/3Ph". Black background on normal power, red background on emergency power. Where the source of power is on a different floor from the equipment served the floor shall be included on the engraved tag. e.g. FCU4068 FED FROM PANEL L6ME:11 ON 6TH FLOOR WEST.
- B. Within every panel provide a typed directory with the area/equipment served by each circuit. Where spares are provided provide adhesive tags beside the appropriate circuit breakers labeled "spare".
- C. Provide an adhesive tag on the inside of the cover plate of all and switches. Tag shall have a clear background with black numbers 1/8" tall identifying the panel & circuit, e.g. A:17. On receptacles, adhesive tag shall be on the exposed side of cover plate near the bottom. On wall switches the tag shall be on the concealed side of the cover plate. In exposed locations the tag should be only as long as the text and shall be installed horizontal centered below the lowest receptacle and the edge of the cover. Rub on tightly for a bubble free and secure seal. Remove and replace any labels which are not applied thus. Additionally apply the circuit designation to the line conductor in device box for verification in the event the cover is lost.

3.07 TEMPORARY LIGHTS AND POWER

A. Provide temporary electrical lighting and power of adequate size to properly serve the areas of work from temporary panelboards. Panels shall accommodate a minimum of six duplex 20 amp receptacle circuits and one welder circuit for every 10,000 SF of building construction. Temporary power panel shall be located within 150 feet of any point where electrical service for the building construction

activities occur. Where applicable coordinate with Owner prior to utilizing any existing panels to limit disruption to normal operations. Temporary work to be installed in a neat and safe manner in accordance with the National Electrical Code, Article 305, and as required by OSHA or applicable local safety codes.

- B. Provide adequate lighting, utilizing temporary fixtures, as required for work in area. In general work areas allow for one incandescent lamp, 100W, for every 200 square feet of work area. At the beginning of every week during construction replace the failed lamps.
- C. Provide additional duplex power outlets and welder connections as required for work in area. Power outlets to be duplex 20 amp, 120 volt, ground fault protected.
- D. Where the Owner allows install welder receptacles in locations requested by DIV15. Obtain written approval of each location from the Owner.

SECTION 16110

RACEWAYS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. All work specified in this section shall comply with the provisions of Section 16010.
- B. Provide a complete raceway system with associated couplings, connectors, fittings, hangers and supports.
- C. Raceways to be mechanically and electrically continuous from outlet to outlet and from outlets to cabinets, pull or junction boxes. All nonmetallic raceways shall have a continuous grounding conductor.
- D. Raceway application schedule:

Rigid Galvanized Steel, RGS:

- 1. Installations exposed in equipment rooms, and less than 7'-0" AFF.
- 2. Outdoors in wet, damp or dry locations.
- 3. Within floor slabs and/or buried locations.
- 4. Service entrance raceways at changes in direction and at all exposed locations.

PVC Conduit:

- 1. Within floor slabs and/or buried locations protected by concrete cover.
- 2. Service entrance raceways, both primary and secondary, for straight runs in buried locations protected by concrete cover.
- 3. Buried locations serving site lighting and/or signage without concrete cover.
- 4. Buried locations used as telecommunication duct banks with concrete cover.

Electrical Metallic Tubing, EMT:

1. Indoors in dry locations unless listed otherwise within Contract Documents.

Flexible Metal Conduit: (Indoors in dry locations)

- 1. Final connection to light fixtures, motors, transformers and HVAC equipment. Not permitted on exit fixtures or emergency fixtures.
- 2. Expansion joints with a bonding jumper.

Liquidtight Flexible Metal Conduit: (In wet, damp and all outdoor locations)

- 1. Final connection to motors, transformers and HVAC equipment.
- 2. Final 12" connection to HVAC control devices.

- E. Empty raceway system for data, communication, intercom, CATV, fiber optics, security, space thermostats and telephones. Provide device box and raceway system as shown on the drawings and as indicated in the project manual. Leave a pull cord/rope in all empty raceways. Refer to mechanical sheets for thermostat locations.
- 1.02 RELATED WORK
 - A. Section 16190: Supporting Devices and Hangers.
- 1.03 SUBMITTALS
 - A. Submittal of products furnished under this Section is not required.

PART 2 - PRODUCTS

- 2.01 RIGID GALVANIZED STEEL, RGS, CONDUITS AND FITTINGS
 - A. Rigid Steel Conduit, ANSI C80.1/UL6, NEC Art. 346, hot dipped galvanized, or electro galvanized interior and exterior, including threads. Standard threaded galvanized couplings. Ericson series 675 couplings are allowed where neither adjacent section can be rotated.
 - B. Associated couplings, connectors and fittings shall be all steel as manufactured by Thomas and Betts Corp., O.Z. Gedney Co., EFCOR or approved equal.
 - C. Intermediate Metal Conduit, UL 1242, NEC Art. 345, is permitted where RGS is indicated unless noted otherwise.
- 2.02 ELECTRICAL METALLIC TUBING (EMT)
 - A. EMT, ANSI C80.3, NEC Art. 348, electro galvanized steel interior and exterior.
 - B. Connectors and couplings for EMT shall be all steel, T&B 5000 series or approved equal and shall be raintight compression or concrete tight set screw type.
- 2.03 POLYVINYL CHLORIDE (PVC)
 - A. Polyvinyl chloride (PVC) conduit, Schedule 40, NEC Art. 347, and associated couplings, connectors, and fittings. PVC conduit to be UL listed and 90 degrees C. UL rated.
 - B. Associated couplings, connectors and fittings shall be PVC solvent welded. Convert to RGS for ells.
- 2.04 FLEXIBLE METAL CONDUIT
 - A. Flexible Metal Conduit, "Greenfield", NEC Art. 350, UL1, ANSI C33.92, galvanized steel.
 - B. Fittings UL 514, ANSI C33.84

- 2.04 LIQUID-TIGHT FLEXIBLE METAL CONDUIT
 - A. Liquid-tight flexible metal conduit, NEC Art. 351, UL360, galvanized steel, flexible PVC outer jacket.
 - B. Fittings UL 514, ANSI C33.84

PART 3 - EXECUTION

- A. Minimum size of conduits shall be ½". Use 3/4" for empty wall boxes used for data, thermostats, etc. unless a larger size conduit is indicated on plans. Where sizes are not indicated select sizes based on NEC requirements for THW insulated conductors and as needed to hold pulling forces below manufacturers recommendations.
- B. Conduit joints shall be cut square, threaded where applicable, reamed smooth, and drawn up tight so conduit ends will butt in couplings, connectors and fittings.
- C. Make bends or offsets with standard ells or field bends with an approved bender. Communication raceways 2" or larger require 24" radius bend or larger.
- D. Run concealed conduits in direct line with long sweep bends or offsets. Run conduits parallel to and at right angles to building lines. Group multiple conduit runs in banks. In general run conduits at one elevation range of +/- 4" in the above ceiling space just above and just below the bottom chord of the bar joists. Coordinate raceway installation to avoid conflict with other trades and accommodate their space requirements. Remove and reinstall raceway as needed to avoid conflicts with work of these other trades.
- E. Secure EMT and flexible metal conduits to all boxes and cabinets with locknuts and/or bushings so system will be electrically continuous from service to all outlets.
- F. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
- G. Complete conduit systems before pulling conductors.
- H. Support conduits as specified in 16190.
- I. Provide cable supports in conduits rising vertically in accordance with the National Electrical Code, Article 300-19.
- J. Provide 250 lb. test nylon cord in all empty conduits.
- K. Conduits which pass through floor slabs (except ground floor) shall be sealed with concrete grout. Seal around conduits or other wiring materials passing through partitions, which extend to the underside of the slab above, and those passing through fire rated floors/walls. Use UL listed fire stop caulk in full accordance with manufacturers' recommendations to prevent passage of smoke

or fire.

- L. Conduits which enter below grade or weather exposed shall be grouted-in and waterproofed to prevent passage of water.
- M. Where RGS conduit is installed in a cabinet, junction box, pull box or auxiliary gutter, conductors shall be protected by an insulated bushing.
- N. In areas where enclosed and gasketed fixtures and weatherproof devices are specified, where rigid conduit enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub, a steel, or malleable iron nylon insulated Bullet Hub, complete with recessed Sealing "O" Ring, shall be used, series 370-379. DO NOT use die cast material.
- O. Provide seal-off fitting in all conduits entering hazardous areas and any cold temperature areas such as air handling units, freezers and refrigerators. Do not use epoxy hard set sealant in non-hazardous areas, use 100% silicone.
- P. In concrete slabs block up conduit from forms and securely fasten in place. All conduits in slabs shall have a minimum of 1-1/2" concrete coverage above and below. Conduits shall be minimum 3/4" when installed in concrete slabs.
- Q. Where conduits running overhead pass through building expansion joints they will be connected by flexible metal conduit of same size with sufficient slack to allow conduits on either side of expansion joint to move a minimum of 3" in any direction. A bonding jumper is required. Provide supports as required on each side of expansion joint, all in accordance with seismic requirements of specific area.
- R. Conduits for feeders and branch circuits shall be terminated directly into panelboard enclosure without the use of pull boxes, junction boxes, wire ways, or auxiliary gutters, unless the panelboard enclosure does not provide sufficient surface area for all conduits. Where such cases exist, the contractor shall notify the Engineer. In no case will splices in such boxes, wire ways, etc. be permitted.
- S. Failure to route conduit through building without interfering with other equipment and construction shall not constitute a reason for an extra charge. Equipment, conduit, and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure. Equipment requiring servicing shall be readily accessible. In general raceways shall be routed as high as possible in concealed spaces which also serve HVAC, sprinkler and plumbing piping/duct/equipment. Coordinate with other trades to avoid interferences. Offset raceways as necessary to avoid interferences with other trades. Relocate any raceways which block service access to equipment of other trades.
- T. Do not route any raceways in elevator hoistways, elevator equipment rooms, stairs, fire pump room or mechanical spaces except those raceways which serve equipment in these spaces.
- U. Provide grounding bushings on all feeder conduits.

- V. Underground PVC raceways shall change direction using galvanized rigid steel elbows. Support all under ground raceways with chairs for uniform separation and concrete coverage, 5 foot on center. Encase primary and secondary service entrance raceways in 3" of concrete, tint red with chalk. Provide 6" wide continuous red plastic tape 12" above all buried raceway "Buried Electrical".
- W. Telecom raceways 2" and larger require a minimum bend radius of 24".
- X. No PVC shall emerge from the ground or concrete slab, transition to RGS below grade.
- Y. Make bends in PVC with standard ells or with an approved bender.
- Z. Provide a flexible metal conduit system for the termination points at equipment that may vibrate such as motors, transformers and HVAC equipment.
- AA. Maximum 6 foot length of flexible metal conduit is required for final connection to pendent or recessed mounted lighting fixtures. Pendent type industrial fixtures shall be supported by RGS. Flexible conduit shall not be used for final connection to control devices exposed in equipment rooms. Flexible conduit is limited to 16" length for flexible connection to motors, HVAC fans, pumps and major equipment. Flexible raceways 2" and larger may be a maximum of 36" long.
- BB. Where flexible metal raceway is installed outdoors or is exposed to continuous or intermittent moisture, conduit shall be liquid tight, UL type UA.
- CC. Where fittings for liquid tight flexible conduit are brought into an enclosure with a knock-out, a gasket assembly, consisting of one piece "O" ring, with Buna-N sealing material, T&B series 5200, shall be installed on outside of box. Fittings shall be made of either steel, or malleable iron only, and shall have insulated throats or insulated bushings.
- DD. In dry locations, where final connections to motors and other equipment may be made with flexible metal conduit, fittings shall be of steel or malleable iron only with insulated throats or insulated bushings, and shall be of wedge and screw type having an angular wedge fitting between convolutions of conduit.
- EE. A copper ground wire shall be installed as a jumper around flexible conduit to assure a continuity of ground to lighting fixtures, transformers, equipment and other utilization equipment.
- FF. All suspended and recessed lighting fixtures shall be connected with flexible metallic conduit from outlet box to fixture.
- GG. Install liquid tight flexible conduit in such a manner as to prevent liquids from running on the surface toward fittings.
- HH. Allow sufficient slack in flexible conduit to reduce the effect of vibration.
- II. Conceal raceways wherever possible in walls, floors or ceiling cavities. Route exposed only in equipment rooms.

SECTION 16121 CONDUCTORS - 600 VOLTS AND BELOW

PART 1 - GENERAL

- 1.01 WORK INCLUDED
 - A. All work specified in this section shall comply with the provisions of Section 16010.
 - B. Provide a complete system of conductors and terminations for all lighting, receptacles, motors, HVAC equipment (including line voltage interlocks & thermostats), heaters, equipment, imaging equipment, security equipment, alarms, and grounding.
- 1.02 WORK NOT INCLUDED
 - A. Conductors and terminations associated with:
 - 1. HVAC "LOW VOLTAGE" control system. Mechanical Contractor is responsible for all low voltage HVAC wiring. Low voltage wiring must utilize insulation which is rated for the highest voltage which might be encountered in an enclosure.
 - 2. Elevator wiring on the load side of electrical disconnect switches at elevator equipment.

PART 2 - PRODUCTS

2.01 CONDUCTORS

- A. Provide 98% conductivity copper conductors with 600-volt insulation. For all conductors No. 10 AWG and larger, provide stranded type THHW-THHN. For all conductors No. 12 AWG and smaller, provide solid type THHN. Provide type SA at connection to lighting fixtures.
- B. Conductors shall be by Anaconda, Cyprus, Rome, Triangle, Southwire or approved equal.
- C. Connectors shall be by AMP, T&B, Burndy or approved equal.
- D. Provide white or gray colored neutral conductors; provide black, color coded phase conductors. Fire alarm conductors shall be color coded as specified in Section 16721.
- PART 3 EXECUTION
- 3.01 INSTALLATION
 - A. All conductors to be continuous from origin to panel or equipment termination without splices. Where splices and taps are indicated or are required, they shall be made in splice boxes.

- B. Install pull boxes in circuits or feeders over 100' long indoors, 200' outdoors.
- C. Use only pulling compound approved by conductor/cable manufacturer to lubricate conductors.
- D. Deliver all conductors to jobsite new and in original wrapping, package or reel.
- E. All conductors and connections shall test free of grounds, shorts, and opens.
- F. Provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 100'.
- G. Use Ideal wing nuts, Scotchlok Type Y, R, G, or B, or approved equivalent connectors for fixture connections at outlet boxes.
- H. Make feeder taps and joints with O. Z. Gedney type T, PT, PM, or PTS, or approved equivalent clamp connectors as manufactured by Kupler, or with approved compression sleeves. Wrap connectors with No. 10 electro-seal or approved equivalent plastic filler and vinyl tape or varnished cambric and linen tape with two coats of glyptal or approved equivalent insulating varnish applied overall. Heavy gauge, water tight, heat shrink sleeves are required over connectors outdoors.
- I. Leave a minimum of 8" slack wire in every outlet box whether it be in use or left for future use.
- J. Minimum size branch circuit conductor shall be #12.
- K. Derate conductor ampacity in accordance with NEC Art. 310 when more than three current carrying conductors are in a single raceway. (Two conductors for single phase systems.) Do not combine more than nine current carrying conductors in a single raceway. (80% of rated Ampacity with 4-6 current carrying conductors, 70% of rated Ampacity with 7-9 current carrying conductors)
- L. Use compression lugs on all splices and terminations #1/0 and larger. Motor terminations #3 and larger shall be T&B type MSC.
- M. Select conductors with ampacity at 75 degC to equal or exceed rating of over current device or as indicated on drawings, whichever is larger. Advise Engineer if a voltage drop exceeding 3% is anticipated on any branch or 2% on any feeder.

	120/208 Volt	277/480 Volt		
Phase A	Black	Brown		
Phase B	Red	Orange		
Phase C	Blue	Yellow		
Neutral	White	Gray		

N. Color code conductors as follows:

Ground	Green	Green

- O. Use factory color coded conductors where commercially available. If not available, use black conductors and band with color tape.
- P. Size conductors based on the overcurrent protection device rating as follows:

C/B OR FUSE RATING AMPS	PHASE SIZE	NEUTRAL SIZE	GROUND SIZE
20	12	12	12
30	10	10	10
40	8	8	10
50	6	6	10
60	4	4	8
70	4	4	8
80	3	3	8
100	1	1	6
125	1	1	6
150	1/0	1/0	6
175	2/0	2/0	6
200	3/0	3/0	6
225	4/0	4/0	4
250	250M	250M	4
300	350M	350M	4
400	600M	600M	3

- Q. These sizes are a minimum. Increase to account for derating factors and longer runs of conductors exceeding 100 linear feet.
 - 1. Increase one standard size where length equals or exceeds the following at the noted voltages:
 - a. 100 LF for 120 VAC single phase.
 - b. 200 LF for 208-240 VAC single or three phase.
 - c. 250 LF for 277 VAC single phase.
 - d. 400 LF for 480 VAC single or three phase.
 - 2. Where the length exceeds twice the distance noted above the conductors shall be increased two standard sizes.
 - 3. Any length of 500 LF shall be determined by the Engineer.
 - 4. Refer to NEC derating tables for reductions due to ambient temperature.

5. Grounding conductors shall be increased in size to match the phase conductors nominal ampacity

SECTION 16130

OUTLET, PULL, AND JUNCTION BOXES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. All work specified in this section shall comply with the provisions of Section 16010.
- B. Provide each fixture, switch, receptacle, and other wiring device with an outlet box of appropriate size and depth for its particular location and use unless indicated otherwise.
- C. Provide pull and junction boxes of appropriate size and depth as indicated on the drawings and as specified hereinafter.

1.02 RELATED WORK

- A. Section 16190: Supporting Devices and Hangers.
- B. Section 16110: Raceways.
- 1.03 SUBMITTALS
 - A. Submittals of products furnished under this Section is not required unless specifically noted.

PART 2 - PRODUCTS

- A. Pull, outlets, and junction boxes shall be Hubbell, National, Arrow-Hart, Appleton, Raco, G.E., Steel City or approved equal.
- B. In-floor outlet boxes shall be equal to Hubbell #B-2519 with #S-3925 Cover or equal matched to the flooring materials, tile or concrete provide a round bronze finished cover in carpeted areas. Submittals required.
- C. Outdoor outlet boxes shall be cast aluminum, equal to Appleton "Unilet", suitable for wet location use. Submittals required.
- D. For interior work, provide galvanized sheet metal boxes of code thickness with lapped and welded joints, 3/4" flanges, screw covers, etc.
- E. For exterior work, provide galvanized sheet metal boxes of code thickness with lapped and welded joints, 3/4" flanges, bolted covers with full gaskets forming a completely raintight assembly.

- F. For exterior below grade work provide non-metallic pull boxes in landscaped areas equal to "quazite".
- G. Pull boxes shall have solid tops, bottoms and sides. No factory knock-outs are allowed.

PART 3 - EXECUTION

- A. Locate outlet boxes to prevent moisture from entering or accumulating within them.
- B. Support outlet boxes independently of conduit per NEC.
- C. Provide 4" x 1-1/2" octagonal ceiling outlet boxes. For increased cubic capacity, provide 4" x 2-1/8" octagonal, 4" x 1-1/2" square or 4" x 2-1/8" square ceiling outlet boxes.
- D. Where required to hang a specified fixture, provide a fixture stud of the no-bolt, self-locking type on ceiling outlets.
- E. Provide 2-1/2" x 3-3/4" one gang masonry boxes for switches and receptacles installed in concrete block walls not plastered. For increased cubic capacity, provide 3-1/2" x 3-3/4" one gang masonry boxes. Where more than two conduits enter the box from one direction, provide 4" square boxes with square cut device covers not less than 1" deep specifically designed for this purpose. Use round edge plaster rings only if the block walls are to be plastered. Use sectional or gangable type outlet boxes with square edge openings that extend through the gypsum wall board in drywall construction.
- F. Provide single gang device boxes for telephone and other communications system outlets. Provide high capacity masonry boxes for system devices larger than standard receptacles.
- G. Provide fittings with threaded hubs for screw connections and with the proper type covers for switches and receptacles served by exposed conduit. Use pressed steel outlet only for ceiling fixture outlets.
- H. Provide condulets with threaded hubs and covers and with proper configurations for all changes of direction of exposed conduits. Standard conduit ells may be used if they do not interfere, damage, or mar the appearance of the installation. Galvanized malleable bodies required where RGS are required.
- I. Use boxes of sufficient cubic capacity to accommodate the number of conductors to be installed. See Article 370 of the National Electric Code.
- J. Effectively close unused openings in boxes with metal plugs or plates.
- K. Set boxes with plaster rings so that front edges are flush or immediately recessed at the finished surfaces. Comply with NEC regarding the allowable recess. Covers shall fit tight to finished wall with no gap.

- L. Secure boxes to surfaces upon which they are mounted or embed boxes in concrete masonry. Support boxes from structural members with approved braces.
- M. Install blank device plates on outlet boxes left for future use or that are not utilized by the low voltage contractors.
- N. Provide bushings in holes through which cords or conductors pass. Provide strain relief fittings on all locations where SO cords connect to Owner supplied equipment.
- O. Install outlet boxes so that the covers will be accessible at all times.
- P. Electrical outlet boxes may be installed in vertical fire resistive assemblies classified as fire/smoke and smoke partitions without affecting the fire classification, provided such openings occur on one side only in each framing space and that openings do not exceed sixteen square inches. All clearances between such outlet boxes and the gypsum board shall be completely filled with joint compound or approved fire-resistive compound. The wall shall be built around outlet boxes larger than sixteen square inches so as not to interfere with the wall rating. Do not install boxes back-to-back in common wall, but offset boxes a minimum of 24". Coordinate with the General Contractor.
- Q. Locate wall switch boxes such that switch center is 46" AFF unless noted otherwise.
- R. Locate receptacle boxes such that receptacle center is 18" AFF unless noted otherwise. At counters and other millwork locate receptacle center 4" above counter or splash unless noted otherwise. Refer to architectural plans millwork details. At drinking fountains locate receptacle as required by fountain manufacturer to conceal receptacle within the enclosure.
- S. Provide coverplates for all outlet boxes. Blank coverplates are required on empty boxes.
- T. Where multiple switches/receptacles are adjacent to one another they shall be ganged together. Provide gang plates with suitable openings. Separate switches that operate at different voltages with code approved plates within the ganged boxes.
- U. Provide single gang box for thermostats 46" AFF to centerline. Refer to mechanical drawings for locations.
- V. Provide an empty 3/4" raceway from telephone, data, video, security equipment, thermostat and other empty device boxes to the above ceiling space in an accessible location and turn open end of conduit horizontal and provide a bushing and pull cord. An accessible ceiling is defined as a lay-in suspended acoustical tile ceiling.
- W. Provide junction boxes as shown on drawings and otherwise where required, sized according to number of conductors in box or type of service to be provided.

Minimum junction box size 4" square and 2-1/8" deep. Provide screw covers for junction boxes.

- X. Use minimum 16 gauge steel for pull boxes and provide with screw cover.
- Y. Install boxes in conduit runs wherever necessary to avoid excessive pulling force requirements or bends in excess of code allowances. Do not exceed 100' runs between pull boxes indoors. Do not exceed 200' runs between pull boxes outdoors.
- Z. Rigidly secure boxes to walls or building structure. Conduit runs will not be considered as adequate support.
- AA. Install boxes with covers in accessible locations. Size boxes in accordance with Articles 370 and 373 of the latest edition of the National Electric Code.
- BB. Do not install pull or junction boxes for joint use of line voltage and signal or low voltage controls unless all conductors are insulated for the highest voltage being used in the same box.
- CC. Install quazite type boxes in a concrete base 2" above finished grade and 12' wider than pull box. Provide an open bottom with the base being 9" thick of 1" or larger gravel for drainage.
- DD. Label box covers with an indellible black marker to indicate the circuits fed through each box.

SECTION 16140 WIRING DEVICES

PART 1 - GENERAL

- 1.01 WORK INCLUDED
 - A. All work specified in this section shall comply with the provisions of Section 16010.
 - B. Provide switches, receptacles, and other wiring devices as indicated on drawings.

PART 2 - PRODUCTS

- A. Bryant numbers are used for weatherproof device plates. Equals by Leviton, Hubbell, Pass and Seymour and Arrowhart.
- B Bryant numbers are used for devices. Approved equals are Arrowhart, Pass and Seymour, Hubbell, General Electric and Leviton.
- C. Specification grade devices are required.

2.01 SWITCHES

A. 20-Amp, 120/277 VAC, 1HP at 120 VAC rated, #4521-I

2.02 RECEPTACLES

- A. Unless noted otherwise, 20-Amp, 125 VAC, NEMA 5-20R, #CR20-I.
- B. Where G is noted = Ground fault circuit interrupter, #GFR82FT-I.
- C. Where IG is noted = Isolated ground duplex type: #5262-IG.
- D. Where 15-Amp is noted, NEMA 5-15R, #5252-I.
- E. Where hospital grade is noted, 15-Amp, 125 VAC, NEMA 5-20R, #8200-I or #8300-I if NEMA 5-20R.

2.03 Device Plates:

- 1. Provide standard size lvory high impact nylon cover plates for single and ganged devices, Bryant series N217x.
- 2. Provide metal cover plates in equipment rooms.
- 3. Provide weather proof NEMA 3R cover plates which maintain their rating when in use for all weather exposed applications.
- 4. Provide standard size lvory high impact nylon cover plates on all power

receptacles equal to Bryant N210x series.

PART 3 - EXECUTION

- A. Mounting:
 - 1. Mount all switches 46" above the finished floor to center line of switch unless noted otherwise.
 - 2. Mount all receptacles 18" above the finished floor to center line of receptacle unless noted otherwise.
 - 3. Mount weatherproof receptacles vertically.
 - 4. Mount devices 4" above the finish surface of countertop or backsplash, whichever is higher, where they are noted as "Above Counter" or "AC"
- B. Polarity: Properly wire all receptacles so that the hot wire, the neutral wire and the ground wire connect to the appropriate terminals on all receptacles. INSTALL WITH THE GROUND PIN UP.
- C. Grounding: Install all receptacles in boxes specified under Section 16130 and install a No. 12 or 10 green ground wire from device grounding terminal back to the grounding bus in the panelboard. The ground conductor shall not be sized less than the phase conductor
- D. Provide a separate isolated ground and neutral conductor for every isolated ground receptacle circuit.
- E. Label the phase conductor at each device with the circuit number using wrap-on labels.

SECTION 16170

SAFETY SWITCHES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. All work specified in this section shall comply with the provisions of Section 16010.
- B. Provide heavy duty, horsepower rated, quick-make, quick-break, safety switches provided with the number of poles and fuse holders as required. General duty or light duty switches are not acceptable.
- 1.02 SUBMITTALS
 - A. Submittal for products furnished under this section is required in accordance with section 16010.

PART 2 - PRODUCTS

- A. Safety switches shall be type HD as manufactured by Square "D", General Electric, ITE or Cutler Hammer.
- B. Enclosures to be NEMA 1 for interior use and NEMA 3R for exterior use.
- C. Switches to have arc shields, to be of enclosed construction and fusible or nonfusible as indicated. Switches to be rated for either 250-volt AC or 600-volt AC to exceed voltage rating of equipment served.
- D. All switches shall be capable of interrupting locked rotor current of motor which it serves.
- E. Switches noted on drawings to be SE rated shall be Service Entrance Rated, and shall be UL listed for such service.
- F. Switches mounted outdoors shall be pad lockable in both "ON" and "OFF" positions. Provide owner with 2-hole shackle bars for each, configured so that two padlocks are required to lock switch "ON" and the removal of either padlock will allow operation of switch. Switches to be mounted indoors shall be pad lockable in the "OFF" position only.

PART 3 - EXECUTION

- A. Provide class R fuses and rejection kit for fusible safety switches serving chillers, elevator equipment and service entrance equipment.
- A. Provide class J time delay fuses for fusible safety switches serving panels, motor

loads and other equipment not otherwise noted.

- B. Provide non-fusible switches at remote equipment locations where switch is required only as a means of disconnect.
- C. Mount switches to walls, equipment enclosures, or freestanding supports with a minimum of four bolts using toggle anchors for masonry construction, Phillips "Red Head" anchors for poured concrete construction and bolts, jumbo washers, lock washers and nuts for equipment enclosures. Do not mount directly to AHU enclosures or motorized equipment.
- D. All safety switches shall be identified with engraved lamcoid nameplates in accordance with Section 16010.

SECTION 16190

SUPPORTING DEVICES AND HANGERS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. All work specified in this section shall comply with the provisions of Section 16010.
- B. Provide a system of supporting devices and hangers to insure secure support or bracing for conduit, electrical equipment, including safety switches, fixtures, panelboards, transformers, outlet boxes, junction boxes, cabinets, etc.

PART 2 - PRODUCTS

2.01 HANGERS/FASTENERS

Provide appropriate supporting devices and hangers for electrical equipment from the below list of Caddy Fasteners as manufactured by Erico Products, Inc., Steel City, Minerallac, or approved equivalent.

- 1. Vertical flange clamps (beam clamps).
- 2. "Z" purlin clips.
- 3. Conduit clips.
- 4. Universal clamps (beam clamps).
- 5. Beam clamps (set screw type).
- 6. Combination push-in conduit clips.
- 7. Combination conduit hanger clamps.
- 8. Flexible conduit clips.
- 9. Special combination conduit clips.
- 10. One hole steel straps.
- 11. Minerallac conduit hangers.

2.02 EQUIPMENT PADS

Fabricate pads of concrete with 10 GA 6X6 welded wire reinforcement, and "J" Bolts positioned for securing equipment to pad. Pad height as noted, or 3.5" if not noted. All floor mounted equipment to be provided with a pad or approved structural steel support frame. Extend pad 6" beyond footprint of equipment. Chamfer top edge of pad 1" on all sides. Finish grout and rub for a smooth void free surface. Refer to drawings for any applicable details.

2.03 STRUT

All strut, fasteners, accessories and fittings shall be 12 gauge electroplated or hot dipped galvanized steel.

PART 3 - EXECUTION

- A. Secure conduits to within 3' of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed ten feet (10') in accordance with currently effective edition of the National Electric Code. All counties in Tennessee west of the Tennessee River shall be installed to resist movement during seismic activity. In seismic zones, support conduits 2.5" and larger with transverse restraints at 30 foot intervals and longitudinal restraints at 60 foot intervals and at each end of conduit run. Seismic restraints are not required if the raceway is rigidly mounted with clamps or all-thread rod with a free distance 12" or less from support to top of raceway. In exposed locations below 9' AFF where raceway is 1" or smaller support with 2-hole straps at 5' intervals and within 18" of each outlet box, J-box, cabinet and fitting.
- B. Install clamps secured to structure for feeder and other conduits routed against the structure. Use drip rods and hangers or racks to support conduits run apart from the structure.
- C. Provide and install suitable strut, angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, etc. All equipment shall be rigidly supported to prevent toppling. All supports shall be galvanized steel strut. All strut, braces, joints and connections shall be made using galvanized steel components, B-line strut systems or equal by Unistrut, or Grinnell
- D. Paint all supporting metal not otherwise protected, with rust inhibiting primer and then with a finish coat to match the surrounding surfaces.
- E. Use of chains, perforated iron, baling wire, or tie wire for supporting conduit runs will not be permitted.
- F. For support of low voltage wiring not required to be in conduit, contractor shall bundle cables together in a neat manner using approved nylon tie wraps. Bundled cables shall be supported with "J" hooks a minimum of five feet on centers. Alternate cable tray supports are allowed subject to approval by the Engineer.
- G. Secure floor mounted equipment at the top and bottom to building structure. Size supports to resist the full weight of equipment. 1/2" x 4" expansion bolt at each corner as a minimum.

SECTION 16450

GROUNDING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. All work specified in this section shall comply with the provisions of Section 16010.
- B. The entire system of raceways and equipment to be grounded in accordance with Article No. 250 and No. 517 of latest edition of National Electrical Code and any local regulation or governmental governing authority.

PART 2 - PRODUCTS

- A. Ground clamps: OZ Electrical Manufacturing Company Type "OG", or equal by Steel City or Appleton.
- B. Raceways, conductors, outlet boxes, pull and junction boxes, etc., to be furnished in accordance with applicable sections of these specifications.
- C. Grounding electrode rods shall be copperclad, 10' length and 3/4" diameter minimum, designed for use as grounding electrode.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General:
 - 1. Clean all conductive surfaces on equipment to be grounded, to assure good electrical continuity.
 - 2. Effectively bond all grounding conductors to grounding electrodes, equipment enclosures and ground busses, except for grounding conductors in isolated ground systems. These shall be bonded only to the isolated ground bus, and shall be kept electrically isolated from the equipment enclosure/raceway system. In nonmetallic conduits serving isolated ground systems, a second, separate grounding conductor shall be installed for grounding of equipment.
 - 3. Locate all grounding attachments away from areas subject to physical damage. Provide protective covering as required.
- B. Main Switchboard/Building Ground:

Main grounding electrode system shall be as shown on the drawings. Service

entrance ground to the driven ground rods, copper water piping, building steel, concrete slab rebar. Additional driven ground rods shall be installed if required to achieve 10 ohm effective resistance to earth. Maintain access to ground rod termination points using PVC pipe and threaded caps.

- C. Feeder/Branch Circuits:
 - 1. Feeder circuits to panels and equipment loads to have a separate green grounding conductor in conduit sized as shown. Grounding conductor shall be kept electrically isolated from the metallic raceway ground at all points.
 - 2. All branch circuits to have a separate green grounding conductor installed in same conduit as phase and neutral conductor from panel ground bus to device. The grounding conductor to be sized in accordance with Table 250-95 of the National Electrical Code. Three single phase branch circuits may share a ground conductor. The ground shall be sized to match the nominal ampacity of the phase conductor where the phase conductor size is increased to account for voltage drop or other reasons.
 - 3. Flexible conduit will not be approved as achieving continuity of ground. All flexible conduit to have a jumper wire sized to ampacity of branch breaker and to be connected to conduit system on both ends; this applies to feeders, motors, expansion joints.
 - 4. Isolated ground circuits shall not share a ground wire with other circuits.

3.02 TEST

A. Ground on main service to be tested to obtain no greater than 10 ohms using test equipment similar to a "Biddle" test. Test data to be submitted to Owner for approval and such approved test data to become a part of the final brochure.

SECTION 16510

LIGHTING AND LAMPS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. All work specified in this section shall comply with the provisions of Section 16010.
- B. Provide labor, material, equipment and services necessary to provide all lighting fixtures, necessary hangers and lamps. Fixtures include all interior fixtures plus all exterior fixtures and signage.
- C. Fluorescent fixtures shall be designed in such a manner that all electrical components may be replaced without disturbing fixture in or on ceiling.

1.02 SUBMITTALS

A. Submit for approval prior to purchasing fixtures, a complete list of fixtures proposed to be used. Include cuts of both specified fixtures and proposed equivalent fixtures. See Section 16010 for submittal requirements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Fixtures are scheduled by Manufacturer and Model number on the project drawings in order to define the type, performance, and quality required. Equal fixtures to be one of the following Approved Manufacturers: Prescolite, Columbia, Daybrite, Metalux, Portfolio, McGraw Edison, Hydrel, Williams, Lithonia and Halo. Others may be considered subject to Owner Approval.
- B. Fluorescent lamps shall be General Electric, Sylvania, Osram, Phillips or Engineer approved equal.
- C. Incandescent and HID lamps shall be General Electric, Sylvania, Phillips, Venture or an Engineer approved equal as recommended by fixture manufacturer.
- D. Ballasts shall be energy-saving electronic, high power factor type. Electronic ballasts for all fluorescent lamps shall have less than 10% Total Harmonic Distortion. Power factor above 0.99. Crest factor below 1.5.

2.02 EXTRA LAMPS

A. Provide 5% additional lamps of each type of lamp installed to the Owner at project closeout, but not less than 2 lamps of each type installed. All lamps shall be operational at the time of project closeout. Return to the project site 2 months after project closeout and replace any lamps that have failed using the Owner's

inventory.

PART 3 - EXECUTION

- A. All fixtures shall be securely mounted as required by NEC and as specified herein.
- B. Fixtures mounted in a suspended ceiling shall be secured to the structure above with four wires extending from each corner to the building structure. Typically two wires extending diagonally across the fixture through a single suspension point overhead will meet this requirement.
- C. Recessed fixtures in dropped ceiling areas shall be connected using 6' whips and No. 16 THHN wire. Whips shall be connected to fixture and outlet box. Each whip shall have installed in it a separate insulated green grounding conductor not smaller than No. 16 AWG for grounding continuity between fixture and conduit system. Grounding conductor shall be mechanically connected in a permanent and effective manner to fixture and conduit system and to be electrically continuous. No conduit shall enter a recessed fixture directly as this would prevent removal of fixture without disturbing balance of circuit.
- D. Outdoor fixtures shall be fully rated for wet locations. Penetrations through walls and roof shall be sealed weathertight. Aiming and/or socket position adjustment of all HID fixtures shall be adjusted until approved by Architect. Allow for evening work as necessary.
- E. Outdoor poles and pole-mounted fixtures shall be as scheduled with substitution subject to Owner and Engineer approval. Pole lighting systems shall be rated for 150 percent of maximum effective fixture projected area for design wind of locale. The site lighting is extremely critical with the local zoning department having close oversight of this project. Ground mounted fixtures are to be set on uniform and void free concrete bases. Where bases are in planting areas they shall be kept to no more than 4" above finished grade. Where dimensions are not provided the fixtures shall be set at uniform spacings and aligned with the building architectural features. Obtain clarification from the Engineer as needed.
- B. In mechanical spaces the locations must be adjusted to provide full use of the light output from every fixture to illuminate the space. Coordinate with the other trades and adjust fixture locations to meet this requirement. Relocate fixtures as directed by the Engineer which, in the opinion of the Engineer, are not properly located.
- C. Provide seismic restraints on all fixtures when the site is in a seismic zone. Comply with local and state authority requirements.