

**NEW HANOVER COUNTY**  
**NEW HANOVER COUNTY LIBRARY-MAIN BRANCH**  
**LIGHTING REPLACEMENT**

**CONTRACT NUMBER 14-0142**

Location

New Hanover County Public Library-Main Branch  
201 Chestnut Street  
Wilmington, NC 28401

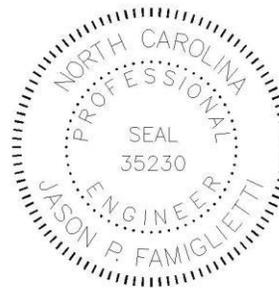
Engineer

CBHF ENGINEERS, PLLC  
3808 Park Avenue  
Wilmington, NC 28403  
Jason Famiglietti, PE



Project Manager

New Hanover Co. Property Management  
200 Division Drive  
Wilmington, NC 28401  
Jerome Fennell - Director  
David Wittenberg - Manager



October 2, 2013

TABLE OF CONTENTS

**NHC Public Library-Main Branch  
LIGHTING REPLACEMENT**

<u>TITLE</u>	<u>PAGES</u>	
Exhibit A - Invitation to Bid		1-1
Section I		
Information to Bidders		1-10
Affidavit A – Listing of Good Faith Efforts		1-2
Affidavit B – Intent to Perform Contract With Own Forces		1-1
Affidavit C - Portion of Work to be performed by Minority Firms		1-2
Affidavit D - Good Faith Efforts		1-2
Affidavit E – Contact Payments		1-1
Sales Tax Form		1-1
Section II		
Bid Form		1-5
Bid Bond		1-2
N.C. E-Verify Requirements – New Hanover		1-1
Affidavit of Compliance with N.C. E-Verify Statutes		1-1
Section III		
Owner-Contractor Agreement		1-13
Section IV - Minority Business Participation		1-1
Section V – Supplemental Conditions		1-2
<b>TECHNICAL SPECIFICATIONS</b>		
<b>GENERAL REQUIREMENTS</b>		
011100 Summary		1-3
012900 Payment Procedures		1-5
013100 Project Management and Coordination		1-5
013200 Construction Progress Documentation		1-4
013233 Photographic Documentation		1-2
013300 Submittal Procedures		1-5
017823 Operation and Maintenance Data		1-6
017839 Project Record Documents		1-2
<b>DRAWINGS</b>		
<b>ELECTRICAL</b>		
E0.1 Legend and Schedules	1-1	
E0.2 Electrical Specifications and Notes	1-1	
ED1.1 Electrical Lighting Demolition Plan	1-1	
ED1.2 Electrical Second Floor Demolition Plan		1-1
E1.1 Electrical First Floor Lighting Plan		1-1
E1.2 Electrical Second Floor Lighting Plan		1-1

## EXHIBIT "A" – SCOPE OF WORK AND INVITATION TO BID

New Hanover County invites Electrical Contractors to bid on construction of NHC Public Library -Main Branch Lighting Replacement. Sealed bids will be received by New Hanover County and CBHF Engineers in the Office of New Hanover County Finance Department, located at 230 Government Center Drive Suite 165, Wilmington, North Carolina 28403, by **3:00 pm on Wednesday October 23, 2013**. Please send all bids to the attention of Lori Colon, Purchasing Agent. This project will be bid and awarded in accordance with G.S. 143-131, Informal Bidding Procedures.

The project consists of:

- Removal and disposal of first floor and second floor magnetic ballast, T12 fluorescent lighting fixtures and HID recessed lights. Replace with new, energy efficient lighting fixtures in existing ceiling grid as indicated in drawings and specifications.
- Provide new ceiling tiles in existing ceiling grid system and add 2 foot sections of ceiling grid where indicated on drawings.
- Install new wall mounted lighting fixtures in open stairwell area to replace recessed down lights in 2 story ceiling area in center of library.
- See base bid and alternates descriptions.
- Providing necessary paperwork and assistance to comply with Progress Energy "Energy for Business" Program.

Installation of lighting fixtures shall be by NC licensed electrical contractors.

Licensed Electrical Contractors must have a minimum of two (2) years of experience on competitively bid, publicly funded, construction projects e.g. City, County, State or School Systems.

Pre- Bid location is at 201 Chestnut Street, Wilmington NC 28401. Pre-bid meeting and site visit will be held on Tuesday October 8, 2013 at 2:00 PM at the Masonboro Room and Thursday October 10 at 11:00 AM at the Federal Point Room on 3<sup>rd</sup> Floor. **Bidders must attend one of the pre-bid meetings**. The Design Consultant and a representative from New Hanover County will be available at that time.

All questions shall be in writing address to Lori A Colon, Purchasing Agent. Questions shall be emailed to [lcolon@nhcgov.com](mailto:lcolon@nhcgov.com). The deadline for a question asked is Tuesday October 15, 2013 by 3:00 p.m. All questions will be answered by Thursday October 17, 2013 by 5:00 p.m.

Complete plans/specifications may be obtained from Digital Print and Imaging Inc. (DPI), 3111 Market St, Wilmington, NC 28403, (910) 341-3005 during working hours: M-Th 8am -5pm; Fri 8am -12pm beginning October 2, 2013. Call to order sets. Any questions regarding plans and specs may be e- mailed to [pmason@cbhfengineers.com](mailto:pmason@cbhfengineers.com).

New Hanover County reserves the right to reject any and all bids, waive informalities and irregularities in bidding and to accept bids which are considered to be in the best interest of the County.

## **SECTION I INFORMATION**

### **FOR BIDDERS**

#### **I-1. SUBMISSION OF BIDS AND BID OPENING:**

- A. Bids will be received by New Hanover County and will be opened and read at the times and places set forth in the Invitation to Bid. Bidders, or their representative, and other interested persons may be present at the opening of proposals.
- B. The envelope containing the bid must be sealed and addressed to New Hanover County, Property Management Department, 200 Division Drive, Wilmington, N.C. 28401. The outside of the envelope should also indicate the name of the Project, the name of the Bidder and the Bidder's North Carolina State Contractor's License Number.
- C. The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids. The time with respect to the bid will be the Standard Time for the United States as maintained by the Time Services Department of the U.S. Naval Observatory: <http://www.usno.navy.mil/USNO/time/display-clocks/simpletime>. Bids will not be accepted after the time(s) set forth in the Invitation to Bid.
- D. Bids will be received in accordance with the Invitation to Bid.

#### **I-2. BIDDING DOCUMENTS:**

- A. Bidding Documents include the Invitation to Bid, Information for Bidders, Bid Form, the Bid Security, Affidavit's of Minority Participation and the Contract Documents, including any Addenda issued prior to receipt of bids. All requirements and obligations of the Bidding Documents are hereby incorporated by reference into the Contract Documents and are binding on the Successful Bidder upon award of the contract.
- B. Bidders may obtain complete sets of the Bidding Documents as designated in the Invitation to Bid in the number and for the deposit, if any, stated therein.
- C. Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor the Design Consultant shall assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- D. The Owner in making copies of the Bidding Documents available on the above terms does so only for the purpose of obtaining Bids on the Work and does not confer a license or grant for any other use.

#### **I-3. DEFINITIONS:**

##### **A. THE BID:**

A Bid is a complete and properly signed proposal to do the work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents and G. S. 143-131, Informal Bidding Procedures.

**B. BASE BID:**

The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which work may be added or from which work may be deleted for sums stated in Alternate Bids, if any.

**C. ALTERNATES:**

An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

**D. HE/HIS:**

The term He or His is not intended to be gender specific.

**I-4. QUALIFICATION OF BIDDER:**

- A. The Contractor must have been engaged in the performance of the type of work described in the Contract Documents for a period of no less than TWO years prior to submitting a bid. The lighting fixture installer shall be a licensed electrician in the state of North Carolina.
- B. Prior to Contract award or within seven days of the Owner's request to do so, the successful Bidder shall be prepared to provide sufficient references from customers with contracts of similar or greater size and scope, and other proof showing to Owner's satisfaction that Contractor is sufficiently experienced and capable of properly performing its proposed Contract with the Owner. Low Bidders that have failed to successfully perform one or more previous contracts with Owner must provide at least three (3) such references in writing from projects performed subsequent to such low bidder's most recent nonperformance of a contract with the Owner. In addition to references, Contractor must demonstrate that his present organization, direct labor force and prior work experience is of adequate size and development to maintain responsible control of the project and to schedule, coordinate and perform the work in an expeditious manner and in accordance with the Contract Documents.
- C. Bidders, whether residents or nonresidents in North Carolina will be required to show evidence of a valid North Carolina State Contractor's License Number before their bids will be considered.
- D. The Owner will consider, in determining the qualifications of a Bidder, his record in the performance of any contracts for construction work into which he may have entered with the Owner or with similar public or private bodies or corporations. The Owner expressly reserves the right to reject the bid of any Bidder if such record discloses that such Bidder, in the opinion of the Owner, has not properly performed such contracts or has habitually and without just cause neglected the payment of bills, or has otherwise disregarded his obligations to Subcontractors, material suppliers or employees.

- E. The Owner may make such investigation as they deem necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as they may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of such Bidder, fails to satisfy the Owner that such Bidder is a responsive and responsible Bidder in accordance with N.C. Gen. Stat. 143-128 and 143-129, and the criteria set forth herein.

**I-5. BIDDER' S REPRESENTATIONS:**

Each Bidder by submitting his Bid represents that:

- A. He has read and understands the Bidding Documents and his Bid is made in accordance therewith; and Bidder agrees to be bound by the terms and requirements set forth in the Bidding and Contract Documents;
- B. He has visited the site, has familiarized himself with the local conditions under which the Work is to be performed in accordance with Article I-9 herein, and has correlated his observations with the requirements of the proposed Contract Documents;
- C. His Bid is based upon the materials, systems and equipment required by the Bidding Documents without exception; and
- D. He has the capability, in all respects, and the moral and business integrity, reliability, technical ability, financial resources, plant, management, superintendents, equipment and materials which will assure effective and efficient good faith performance in full compliance with the Contract Documents and with any and all schedules and Milestone and Completion dates required by the Owner. The Bidder acknowledges and represents in his estimating, planning and scheduling of the Work that the Contract Time has made allowances for normal inclement weather indigenous to the Project Site. The Bidder hereby certifies that the work shall be completed, in place, in full accordance with the Contract Documents, within the time limits specified.
- E. He agrees that upon receipt of the Notice of Award, he will execute the formal Contract, and will deliver all bonds and proof of insurance coverage as required by the Bidding Documents.
- F. He agrees to execute the formal Contract within ten (10) business days from the date of Notice of Award, and in case he fails or neglects to appear within the specified time to execute the Contract, he will be considered as having abandoned the Contract, and the Bid Security accompanying this Proposal will be forfeited to the Owner by reason of such failure on the part of the Bidder.
- G. He has made an effort to meet New Hanover County's verifiable ten percent (10%) goal for participation by minority businesses in the total value of the work per the New Hanover County Agreement between Contractor and County.
- H. He has received the New Hanover County Form of Agreement between Owner and Contractor.

**I-6. BID SECURITY:**

- A. See the New Hanover County Form of Agreement Between Owner and Contractor.

I-7. FORFEITURE OF BID BOND:

The Successful Bidder, upon his failure or refusal to execute the Contract within ten (10) business days after he has received Notice of Award, shall forfeit to the Owner the security deposited with his bid in accordance with North Carolina General Statute 143-129.

I-8. MINORITY BUSINESS ENTERPRISES

It is the policy of the Owner to encourage the use of minority businesses in all county construction contracts and have a verifiable percentage goal of ten percent (10%) participation in the total value of the work. It is the intent of this policy that the Owner, as awarding authority for county construction projects, and the Prime Contractors and Subcontractors performing the construction contracts awarded shall cooperate and in good faith do all things legal, proper, and reasonable to achieve the verifiable goal often percent (10%) participation. Each bidder will take specific actions to insure a good faith effort in the recruitment and selection of minority businesses.

- A. For Bids that include work performed with its own workforce: A Bidder that performs all of the work under a contract with its own workforce may submit with their bid an affidavit to that effect in lieu of the affidavit mentioned in the previous subsection A. This affidavit is Affidavit B – Intent to Perform Contract with Own Forces and is included as an attachment to Section I, Information to Bidders, and Section II, Bid Form.

NOTE: The Bidder must include either Affidavit A –Listing of Good Faith Efforts or Affidavit B – Intent to Perform Contract with Own Workforce with its bid. Failure to include either of these affidavits with the bid may result in declaring the bid non-responsive.

- B. Each Bidder shall identify on its bid the minority businesses that it will use on the project and the corresponding dollar value of the bid. Section II, Bid Form, provides space for the Bidder to enter this information.

**SUBMITTED BY THE LOWEST RESPONSIBLE, RESPONSIVE BIDDER WITHIN 72 HOURS AFTER NOTIFICATION OF BEING LOW BIDDER**

- C. An affidavit that includes a description of the portion of work to be executed by the minority businesses, expressed as a percentage of the total contract price, which is equal to or greater than the verifiable ten percent (10% ) goal. This affidavit is Affidavit C – Portion of the Work to be performed by Minority Firms and is included as an attachment to Section II, Information to Bidders.
- D. Documentation of its good faith effort to meet the verifiable ten percent (10%) goal. The documentation must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations, and evidence of other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract. This affidavit is Affidavit D – Good Faith Efforts and is included as an attachment to Section II, Information to Bidders.

NOTE: The lowest responsible and responsive bidder must submit either Affidavit C – Portion of the Work to be Performed by Minority Firms or Affidavit D – Good Faith Efforts within 72 hours after notification of being low bidder. Failure to submit either of these affidavits within the time provided may result in declaring the bid non-responsive.

I-9. SITE CONDITIONS AND CONDITIONS OF THE WORK:

- A. Each bidder must acquaint himself thoroughly as to the character and nature of the work to be done. Each bidder furthermore must make a careful examination of the site of the work and inform himself fully as to the difficulties to be encountered in the performance of the work, the facilities for delivering, storing and placing materials and equipment, and other conditions relating to construction and labor.
- B. No plea of ignorance of conditions that exist or may hereafter exist on the site of the work, or difficulties that may be encountered in the execution of the work, as a result of failure to make necessary investigations and examinations, will be accepted as an excuse for any failure or omission on the part of the successful Bidder to fulfill in every detail all the requirements of the Contract Documents and to complete the work or the consideration set forth therein, or as a basis for any claim whatsoever.
- C. Insofar as possible, the Successful Bidder, in carrying out his work, must employ such methods or means as will not cause interruption of or interference with the work of the Owner or any separate contractor.

I-10. BIDDER'S QUESTIONS, ADDENDA AND INTERPRETATIONS:

- A. Bidders and Sub-bidders shall promptly notify the Design Consultant of any ambiguity, inconsistency or error which they may discover upon examination of the Bidding and Contract Documents or of the site and local conditions. No interpretation of them meaning of the drawings, specifications or other contract documents will be made to any Bidder orally.
- B. Every request for such interpretation should be in writing addressed to the Design Consultant with a copy forwarded to the Owner.
- C. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Bidding Documents which, if issued, will be transmitted to all prospective Bidders (at the respective addresses furnished for such purposes) not later than three calendar days prior to the date fixed for the opening of bids. Neither the Design Consultant nor the Owner will be responsible for any other explanations or interpretations of the proposed documents. Failure of any Bidder to receive any such addendum or interpretation shall not relieve any bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.
- D. Each Bidder shall ascertain prior to submitting his bid that he has received all Addenda issued, and he shall acknowledge receipt and inclusion in his proposal of all Addenda.
- F. The Design Consultant and a representative for New Hanover County will be available at a Pre-Bid Conference to answer questions concerning the project. The date and time of the Pre-Bid Conference shall be determined in the Invitation to Bid. Questions after that time shall be submitted in writing to the Design Consultant.

I-11. SECURITY FOR FAITHFUL PERFORMANCE:

Performance and Payment Bonds:

The Successful bidder shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the Contract Sum as security for the faithful performance of this Contract and also a Labor and Material Payment Bond in an amount not less than one hundred percent (100%) of the Contract Sum, as security for the payment of all persons performing labor and furnishing materials under this Contract. The Performance Bond and the Labor and Material Payment Bond shall be in separate instruments acceptable to the Owner, in accordance with State law and shall be delivered to the Owner not later than the date of execution of the Contract by the Contractor.

I-12. TIME OR COMPLETION AND LIQUIDATED DAMAGES FOR NON-COMPLETION:

The time for completion of this Contract and liquidated damages for non-completion within the stipulated time shall be as fixed in the Supplemental Conditions.

I-13. LOCATION OF WORK:

The site of the proposed work is on Owner owned property, public streets, easements and/or other right-of-ways, as shown on the drawings.

I-14. LIABILITY INSURANCE AND WORKMEN'S COMPENSATION:

The Successful Bidder will be required to maintain Commercial General Liability, Workmen's Compensation and other insurance in the amounts and under the terms stipulated in the New Hanover County Agreement between Contractor and County

I-15. BIDDERS REFERRED TO LAWS:

- A. The attention of Bidders is called to the provisions of all Municipal, County and State laws, regulations, ordinances and resolutions, including but not limited to, (the Human Rights Ordinance; the Equal Opportunity, Small and Minority Business Enterprises and the Construction Safety Resolutions); as well as laws, regulations, ordinance resolutions and permits relating to obstructing streets, maintaining signals, storing and handling of explosives, affecting the Bidder, or his employees or his work hereunder in his relation to the Owner or any other person. The Bidder shall obey all such laws, regulations, ordinances, permits or resolutions controlling or limiting Contractors while engaged in the prosecution of work under this Contract.
- B. The provisions of this contract shall be interpreted in accordance with the laws of North Carolina and in accordance with the laws, ordinances, regulations, permits and resolutions of local Municipalities and New Hanover County.

I-16. TAXES

All applicable Federal, State and Local Taxes shall be included in the Bidder's proposal. The successful bidder shall provide the Owner with documentation of North Carolina sales taxes paid

For all purchases on the project in a form provided by the Owner and included as an attachment to this Section II, Information to Bidders.

I- 17. RIGHT TO REJECT BIDS:

The Owner expressly reserves the right to reject any or all bids, to waive any informalities or irregularities in the bids received, and to accept the at bid which in its judgment, best serves the interest of the Owner.

I-18. EQUAL PRODUCTS AND SUBSTITUTIONS:

A. Whenever possible, the Design Consultant shall specify in the plans the required performance and design characteristics for materials as required by N.C. Gen. Stat. § 133-3. When it is impossible or impractical to specify the required performance and design characteristics for materials, the Design Consultant may use a certain brand, make, manufacturer, article, device, product, material, fixture, form or type construction by name, make or catalog number to convey the general style, type, character and standard of quality of the article desired. Unless specifically stated to the contrary, any Bidder may, with Owner approval, use any article, device, product, material, fixture, form or type of construction which in the judgment of the Design Consultant is equal to that specified considering quality, workmanship, economy of operation, durability, suitably for the purpose intended, and acceptability for use on the project. Such requests must be submitted **seven (7)** days prior to bid opening date. Approval by the Owner prior to bid opening will be in the form of an Addendum to the Specifications issued to all prospective Bidders indicating that the additional makes or brands appear to be equivalent to those specified. Nothing in this paragraph is intended to restrict or inhibit free and open competition on county projects.

I-19. PREPARATION AND SUBMITTAL OF BID:

- A. Bids shall be submitted utilizing the Bid Form as bound herein as Section II, or otherwise provided with the Contract Documents, and shall be complete in every respect. The total bid amount shall be entered in words and figures in the space provided. Where applicable, the unit price or lump sum items, and their extensions, shall be entered in figures in the respective columns provided for each bid item. All entries shall be typewritten or printed in ink. The signatures of all persons shall be in longhand. Any entry of amount that appears on the face of the bid to have involved an erasure, deletion, white-out and/or substitution or other such change or alteration, shall show by them the initials of the person signing the bid and the date of the change or alteration. A failure to comply with this requirement may be cause for disqualification of the bid.
- B. For Unit Price bids, in the event of any discrepancies between the unit prices and the extensions thereof or the total bid amount, the unit prices shall govern. For Lump Sum bids, in the event of a discrepancy between the bid amount in writing and that in figures, the written value shall govern.
- C. Bids shall not contain any restatement or qualifications of work to be done and alternate bids will not be considered unless called for. No oral bids or modifications will be considered.

- D. The amount of a bid submitted by a subcontractor to the general contractor under the single prime contracting system shall not exceed the bid, if any, for the same work by that subcontractor to the Owner under the multiple prime systems.
- E. Each single-prime bid shall identify the major subcontractors, including but not limited to the contractors selected to perform the mechanical, electrical and plumbing portions of the work, if applicable, and the subcontractors' respective bid prices for the work.

I-20. MODIFICATION OR WITHDRAWAL OF BID:

- A. A Bidder may withdraw his bid from consideration if such bid was based upon a mistake as provided in North Carolina General Statute 143-129.1.
- B. Prior to the time and date designated for receipt of bids, any bid submitted may be modified or withdrawn by notice to the party receiving bids at the place designated for receipt of bids. Such notice shall be in writing over the signature of the Bidder or by telegram; if by telegram, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of bids, and it shall be so worded as not to reveal the amount of the original bid.
- C. Withdrawn bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with this Information for Bidders.
- D. Bid security, if any is required, shall be in an amount sufficient for the bid as modified or resubmitted.

I- 21. DETAILED BID BREAKDOWN:

If the Owner directs, the Bidder shall provide a detailed breakdown of his bid acceptable to the Owner. In addition to verifying accounting requirements, the breakdown may be used by the Owner to determine whether the Bidder has grossly misjudged the requirements of any area. Failure to provide the requested detailed breakdown may result in rejection of the bid proposal.

I- 22. AWARD OF CONTRACT:

The contract will be awarded to the lowest responsive and responsible bidder under the single prime system taking into consideration quality, performance, and the time specified in the bids for the performance of the contract.

- A. The lowest single prime bidder shall be determined by the aggregate amount of the unit prices set forth in the form of bid, if work is bid on a unit price basis, or the aggregate amount of the Base Bid, plus any Alternates selected by the Owner. Single prime bids will be received and awarded according to state law.
- B. A Responsive Bidder shall mean a Bidder who has submitted a bid which conforms, in all material respects, to the Bidding Documents.
- C. A Responsible Bidder shall mean a Bidder who has the capability, in all respects, to perform fully the contract requirements and the moral and business integrity and reliability which will

Assure good faith performance. In determining responsibility, the following criteria will be considered:

1. The ability, capacity and skill of the Bidder to perform the contract or provide the service required;
2. Whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay or interference;
3. The character, integrity, reputation, judgment, experience and efficiency of the Bidder;
4. The quality of performance of previous contracts or services. For example the following information will be considered:
  - a. The administrative and consultant cost overruns incurred by Owners on previous contracts with Bidder,
  - b. The Bidder's compliance record with contract general conditions on other projects,
  - c. The submittal by the bidder of excessive and/or unsubstantiated extra cost proposals and claims on other projects,
  - d. The Bidder's record for completion of the work within the Contract Time or within Contract Milestones and Bidders compliance with scheduling and coordination requirements on other projects,
  - e. The Bidder's demonstrated cooperation with the Owner or the Design Consultant and other contractors on previous contracts,
  - f. Whether the work performed and materials furnished on previous contracts was in accordance with the Contract Documents;
5. The previous and existing compliance by the bidder with laws and ordinances relating to contracts or services;
6. The sufficiency of the financial resources and ability of the Bidder to perform the contract or provide the service;
7. The quality, availability and adaptability of the goods or services to the particular use required;
8. The ability of the Bidder to provide future maintenance and service for the warranty period of the contract;
9. Whether the Bidder is in arrears to the Owner on debt or contract or is a defaulter on surety to the Owner;
10. Whether the bidder has demonstrated a good faith effort to use M/WBE's as subcontractors;

11. Such other information as may be secured by the Owner having a bearing on the decision to award the contract, to include, but not limited to:
  - a. The ability, experience and commitment of the Bidder to properly and reasonably plan, schedule, coordinate and execute the Work,
  - b. Whether the Bidder has ever been debarred from bidding or found ineligible for bidding on any other projects.
- D. The purpose of the above is to enable the Owner in its opinion, to select the lowest responsible bidder. The ability of the low Bidder to provide the required bonds will not of itself demonstrate responsibility of the Bidder.
- E. The Owner reserves the right to require from the Bidder: (1) submissions of references, within seven days of bid opening, to include a listing of previous and current projects and (2) financial statements indicating current financial status, prepared in accordance with generally accepted accounting principles, by a CPA licensed to do business in North Carolina, (3) any other information deemed necessary in order to establish the responsiveness and responsibility of the bidder.
- F. The Owner reserves the right to defer award of this contract for a period of forty-five (45) days after the due date of bids. During this period of time, the Bidder shall guarantee the prices quoted in his bid.

**END OF SECTION I - INFORMATION FOR BIDDERS**

# AFFIDAVIT A – LISTING OF GOOD FAITH EFFORTS

County of \_\_\_\_\_

Affidavit of \_\_\_\_\_  
(Name of Bidder)

I have made a good faith effort to comply under the following areas checked:

**Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive.**

- 1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.
- 2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.
- 3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.
- 4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.
- 5 – (10 pts)** Attended prebid meetings scheduled by the public owner.
- 6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.
- 7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.
- 8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.
- 9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.
- 10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_



State of North Carolina, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_

**AFFIDAVIT B - INTENT TO PERFORM CONTRACT WITH OWN  
FORCES**

County of \_\_\_\_\_

Affidavit of \_\_\_\_\_  
(Name of Bidder)

I hereby certify that it is our intent to perform 100% of the work required for the \_\_\_\_\_  
\_\_\_\_\_ contract.  
(Name of Project)

In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform all elements of the work on this project with his/her own current work forces; and

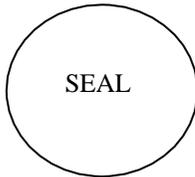
The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

The undersigned hereby certifies that he or she has read this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_



State of North Carolina, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_



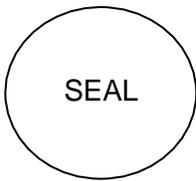
Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with Minority Firms for work listed in this schedule conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of this commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_



State of North Carolina, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_

## AFFIDAVIT D – Good Faith Efforts

County of \_\_\_\_\_

**(Note this form is to be submitted only by the apparent lowest responsible, responsive bidder.)**

If the goal of 10% participation by minority business **is not** achieved, the Bidder shall provide the following documentation to the Owner of his good faith efforts:

Affidavit of: \_\_\_\_\_  
 (Name of Bidder)

I do certify the attached documentation as true and accurate representation of my good faith efforts.  
 Attach additional sheets if required

Name and Phone Number	Minority Category	Work description	Dollar Value

\*Minority categories: Black, African American (**B**), Hispanic (**H**), Asian American (**A**) American Indian (**I**), Female (**F**) Socially and Economically Disadvantaged (**D**)

Documentation of the Bidder's good faith efforts to meet the goals set forth in these provisions. Examples of documentation include, but are not limited to, the following evidence:

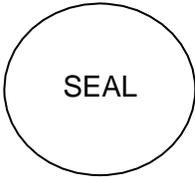
- A. Copies of solicitations for quotes to at least three (3) minority business firms from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- B. Copies of quotes or responses received from each firm responding to the solicitation.
- C. A telephone log of follow-up calls to each firm sent a solicitation.
- D. For subcontracts where a minority business firm is not considered the lowest responsible sub-bidder, copies of quotes received from all firms submitting quotes for that particular subcontract.
- E. Documentation of any contacts or correspondence to minority business, community, or contractor organizations in an attempt to meet the goal.
- F. Copy of pre-bid roster.
- G. Letter documenting efforts to provide assistance in obtaining required bonding or insurance for minority business.
- H. Letter detailing reasons for rejection of minority business due to lack of qualification.
- I. Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

Failure to provide the documentation as listed in these provisions may result in rejection of the bid and award to the next lowest responsible and responsive bidder.

Date: \_\_\_\_\_ Name of Authorized Officer: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_



State of North Carolina, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

Notary Public \_\_\_\_\_

My commission expires \_\_\_\_\_

# AFFIDAVIT E

## MBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: \_\_\_\_\_

Address & Phone: \_\_\_\_\_

Project Name: \_\_\_\_\_

SCO Project ID: \_\_\_\_\_

Pay Application #: \_\_\_\_\_ Period: \_\_\_\_\_

The following is a list of payments made to Minority Business Enterprises on this project for the above-mentioned period.

MBE FIRM NAME	* TYPE OF MBE	AMOUNT PAID THIS MONTH (With This Pay App)	TOTAL PAYMENTS TO DATE	TOTAL AMOUNT COMMITTED

\*Minority categories: Black (B), Hispanic (H), Asian American (AA), American Indian (AI), White Female (WF), Socially and Economically Disadvantaged (SED)

Approved/Certified By:

\_\_\_\_\_  
Name Title

\_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

**SUBMIT WITH EACH PAY REQUEST - FINAL PAYMENT - FINAL REPORT**

## CONTRACTOR'S SALES TAX REPORT N.C. STATE & LOCAL SALES TAXES PAID

OWNER: New Hanover County

PROJECT NAME: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

FOR PERIOD: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

VENDOR NAME	VENDOR ADDRESS CITY & STATE	MATERIAL PURCHASED	INVOICE NUMBER	Date of Purchase	INVOICE AMOUNT	N.C. TAX	COUNTY TAX	NAME OF COUNTY
				TOTALS				

I hereby certify that, during the period stated above, North Carolina sales and use taxes were paid as listed above, with respect to building materials, supplies, fixtures, and equipment which have become a part of, or annexed to, a building or structure erected, altered or repaired for New Hanover, and that the vendors from whom the property was purchased, the dates and numbers of the invoices covering the purchases, the total amount of the invoices of each vendor, the North Carolina sales and use taxes paid, and the cost of property withdrawn from warehouse stock and North Carolina sales or use taxes paid are stated above.

Sworn to and Subscribed before me, this \_\_\_\_\_ day of \_\_\_\_\_ By: \_\_\_\_\_

\_\_\_\_\_Notary

My Commission Expires: \_\_\_\_\_ Title: \_\_\_\_\_

*Items that should **NOT** be included are: scaffolding, forms for concrete, fuel for operation of machinery and equipment, tools, equipment, equipment repair parts and equipment rentals.*

**SECTION II**

**BID FORM**

FOR: NEW HANOVER COUNTY LIBRARY-MAIN BRANCH LIGHTING REPLACEMENT  
Contract Number: 14-0142

TO: New Hanover County  
Property Management Department  
200 Division Drive  
Wilmington, North Carolina 28401

FROM: \_\_\_\_\_  
BIDDER

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
CITY STATE ZIP

\_\_\_\_\_  
PHONE FAX EMAIL ADDRESS

**1. BASE BID PROPOSAL:**

Having become completely familiar with the local conditions affecting the cost of work at the place where work is to be executed, and having carefully examined the site conditions as they currently exist, and having carefully examined Bidding Documents prepared by

CBHF Engineers

and titled:

New Hanover County Library-Main Branch Lighting Replacement

Dated October 2, 2013 together with any addenda to such Bidding Documents as listed hereinafter, the undersigned hereby proposes and agrees to provide all labor, materials, plant, equipment, transportation and other facilities as necessary and/or required to execute all of the work described by the aforesaid Bidding Documents for the lump sum consideration of: (Bidder shall write in the amount of the base bid here)

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

Construction Allowance           \$5,000.00          

Total Base Bid \_\_\_\_\_

Said amount being hereinafter referred to as the Total Base Bid or Total Base Bid Proposal.

**2. ALTERNATES:**

The undersigned proposes to perform alternatives for stated resulting additions to or deductions from the Base Bid. Additions and deductions shall include any modifications of work or additional work that undersigned may be required to perform by reason of the acceptance of any alternative. (Bidder shall write in the amounts for the alternates listed below)

**ALTERNATE BID 1A and 1B pertain to 1<sup>st</sup> Floor:**

**ALTERNATE BID 1A: Cost to provide LED lighting fixtures as indicated by “alt” in light fixture schedule instead of light fixtures listed as base bid.**

Adjust Base Bid by [ADDING or DELETING] \_\_\_\_\_  
 \_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

**ALTERNATE BID 1B: Cost to remove and replace all existing ceiling tiles and miscellaneous work associated with this as indicated on key notes 6, 7 and 8 on drawing E1.1.**

Adjust Base Bid by [ADDING or DELETING] \_\_\_\_\_  
 \_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

**ALTERNATE BID 2, 2A and 2B pertain to 2<sup>nd</sup> Floor:**

**ALTERNATE BID 2: Cost to perform all work on 2<sup>nd</sup> floor as indicated on E1.2 and ED1.2 except work indicated within open stairwell (which should be included in base bid) and except alt. bids 2A and 2B.**

**ALTERNATE BID 2A: Cost to provide LED lighting fixtures as indicated by “alt” in light fixture schedule instead of light fixtures listed as base bid.**

**ALTERNATE BID 2B: Cost to remove and replace all existing ceiling tiles and miscellaneous work associated with this as indicated on key notes 4, 5 and 6 on drawing E1.2.**

**3. SUBCONTRACTOR LISTING**

Bidders shall identify below the names of major subcontractors, including but not limited to contractors selected to perform the mechanical, electrical and plumbing portions of the work, and the subcontractors’ respective bid prices for the work. This information is required to be submitted at bid time. (Bidder shall write in the names and amounts of subcontracts below)

Name of Subcontractor	Amount of Bid

**4. UNIT PRICES AND ALLOWANCES**

Unit prices are complete for labor, equipment, material and overhead and profit; Base bid includes allowance quantity of each item. Unused amount will be credited to the Owner by change order at the end of the project. (Bidder shall write in the unit prices for description of work listed below)

Description	Unit Price	Unit	Allowance Quantity
x		Each	x
x		Each	x
x		Each	x

Base bid includes all cash allowances listed below. Unused amount will be credited to the Owner by change order at the end of the project.

**ALLOWANCES/ UNFORSEEN CONDITIONS: \$ 5,000.**

**6. MINORITY BUSINESSES:**

Please check the following: Is your organization registered with HUB office?

Yes \_\_\_ No \_\_\_\_\_

Is your organization a minority contractor, small contractor, physically handicapped contractor, a woman contractor, a disabled business enterprise, or a non-profit work center for the blind and severely disabled?

Yes \_\_\_\_\_ No \_\_\_\_\_

Each Bidder shall identify on its bid the minority businesses that it will use on the project and the corresponding total dollar value of the bid. (Bidder shall write in the names and subcontract amount of minority businesses used in bid)

Name of Minority Business	Subcontract Amount

In addition to the information above, the Bidder must complete and provide with the bid one of the following affidavits:

**Affidavit A – Listing of Good Faith Efforts**

This affidavit documents the good faith efforts of the Bidder and is to be submitted with the bid if the Bidder is subcontracting portions of the work.

**Affidavit B – Intent to Perform Contract with Own Forces**

This affidavit documents the intent of the Bidder to perform the contract with its own workforce and is to be submitted with the bid if the Bidder is not subcontracting portions of the work.

NOTE: The Bidder must include either Affidavit A or Affidavit B must be submitted with the bid. Failure to include either of these affidavits may result in declaring the bid non-responsive.

**7. ADDENDA ACKNOWLEDGEMENT:**

The undersigned acknowledges receipt of the following addenda: (Bidder to write in the number and date appearing on each addendum received)

Addendum No.	Date	Addendum No.	Date

**8. BID SECURITY:**

Bid security in the amount of five (5) percent of the Base Bid is attached, without endorsement, in the sum of \_\_\_\_\_ Dollars (\$) which is to become the property of the Owner in the event the Contract and Performance and Payment Bonds are not executed within the time set forth, as liquidated damages for the delay and additional work caused the Owner.

9. The undersigned declares that the person or persons signing this Proposal is/are fully authorized to sign on behalf of the firm listed and to fully bind the firm listed to all the Proposal's conditions and provisions thereof.
10. It is agreed that no person or persons or company other than the firm listed below or as otherwise indicated has any interest whatsoever in this proposal or the contract that may be entered into as a result of the Proposal and that in all respects the proposal is legal and firm, submitted in good faith without collusion or fraud.
11. It is agreed that the undersigned has complied or will comply with all requirements of local, state, and national laws, and that no legal requirement has been or will be violated in making or accepting this Proposal, in awarding the contract to him and/or in the prosecution of the work required.
12. It is agreed that the undersigned shall provide any information deemed necessary by the Owner to establish the responsiveness and responsibility of the bidder.
13. The undersigned acknowledges that he has received the Agreement Between Owner and Contractor.
14. The following information is provided pursuant to the Contract Documents:
  1. Legal Name of Firm:

- 
- a. If Firm is a corporation, state that corporation is organized under the laws of the State of \_\_\_\_\_ Please affix corporate seal to this Form of Bid.
- b. If Firm is a partnership, state names of partners: \_\_\_\_\_  
\_\_\_\_\_
- c. If Firm is an individual using a trade name, state name of individual: \_\_\_\_\_  
\_\_\_\_\_
2. North Carolina Contractor's License Number: \_\_\_\_\_

Respectfully submitted, this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

(Signature) \_\_\_\_\_  
(Name Typed) \_\_\_\_\_  
(Title) \_\_\_\_\_

(SEAL IF BIDDER IS A CORPORATION)

**END OF SECTION II – BID FORM**

Enclosure

1. Bid Bond

**BID BOND**

**KNOW ALL MEN BY THESE PRESENTS**, That we,

\_\_\_\_\_

(Bidder's Name)

\_\_\_\_\_, of \_\_\_\_\_

(Street Address)

(City, State, Zip)

hereinafter called the Principal, and

\_\_\_\_\_

(Surety's Name)

a corporation organized and existing under the Laws of the State of \_\_\_\_\_, and authorized to transact business in the State of \_\_\_\_\_, as Surety, hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_ as the Owner and hereinafter called Obligee, in the Penal sum of five percent (5%) of the amount bid, good and lawful money of the United States of America, for the payment of which the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The Condition of this Obligation is such, that, WHEREAS the Principal has submitted a proposal to the Obligee on a contract for the construction

of \_\_\_\_\_

(Contract Name and Number)

**NOW THEREFORE**, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the Bidding or Contract Documents with good and sufficient surety for the faithful performance of such construction for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void; otherwise to remain in full force and effect.

In witness whereof, we have hereunto set \_\_\_\_\_ our signatures and seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, all pursuant to due authorization.

\_\_\_\_\_  
Principal / Owner (Seal)

By \_\_\_\_\_ Surety

By \_\_\_\_\_  
Attorney-in-Fact in accordance  
with the attached Power of Attorney

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) ss:

I, \_\_\_\_\_, a Notary Public in and for the State and County aforesaid, do hereby certify that \_\_\_\_\_, and \_\_\_\_\_, whose names are signed to the foregoing bond, this day personally appeared before me in my State and County aforesaid and acknowledged the same.

Given under my hand seal this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public (Seal)

\_\_\_\_\_  
My Commission expires:



## NEW HANOVER COUNTY

September 18, 2013

Company Name

Attn:

Address

City, State, Zip

RE: N.C. E-Verify Requirements - New Hanover

Dear Vendor

Effective September 4, 2013, the N.C. General Assembly enacted Session Law 2013-418 requiring vendors, contractors and their subcontractors doing business with local government to perform E-Verify to check the work authorization of employees. Enclosed is the required Affidavit for you and your subcontractors to complete demonstrating your employee status has been checked and that records of such verification are being maintained. If you have fewer than 25 employees, you are still required to complete the Affidavit to demonstrate your exemption.

You can find more information on E-Verify on the U.S. Citizens and Immigration Services website: <http://www.uscis.gov/portal/site/uscis>.

We look forward to your full compliance and to your promptly completing and returning all required affidavit(s) to our office. Thank you for doing business with New Hanover County.

Respectfully,

Lori A Colon  
Purchasing Agent

STATE OF NORTH CAROLINA

COUNTY OF \_\_\_\_\_

**AFFIDAVIT of COMPLIANCE**  
**with N.C. E-Verify Statutes**

I, \_\_\_\_\_ (hereinafter the "Affiant"), duly authorized by and on behalf of \_\_\_\_\_ (hereinafter the "Employer") after being first duly sworn deposes and says as follows:

1. I am the \_\_\_\_\_ (President, Manager, CEO, etc.) of the Employer and possess the full authority to speak for and on behalf of the Employer identified above.
2. Employer understands that "E-Verify" means the federal E-Verify program operated by the United States Dept. of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law.
3. \_\_\_\_\_ Employer employs 25 or more employees in the State of North Carolina, and is in compliance with the provisions of N.C. Gen. Stat. §64-26. Employer has verified the work authorization of its employees through E-Verify and shall retain the records of verification for a period of at least one year.  
  
\_\_\_\_\_ Employer employs fewer than 25 Employees and is therefore not subject to the provisions of N.C. Gen. Stat. §64-26.
4. All subcontractors engaged by or to be engaged by Employer have or will have likewise complied with the provisions of N.C. Gen. Stat. §64-26.
5. Employer shall keep New Hanover County informed of any change in its status pursuant to Article 2 of Chapter 64 of the North Carolina General Statutes.

Further this affiant sayeth not.

This the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Affiant

STATE OF NORTH CAROLINA  
COUNTY OF \_\_\_\_\_

Sworn to and subscribed before me, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

[SEAL]

My commission expires: \_\_\_\_\_

**SECTION III**

**OWNER-CONTRACTOR AGREEMENT**

New Hanover County Agreement – Contract between New Hanover County and Contractor.

NORTH CAROLINA

AGREEMENT

NEW HANOVER COUNTY

THIS CONTRACT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ 2013, by and between NEW HANOVER COUNTY, a political subdivision of the State of North Carolina, hereinafter referred to as "County"; and \_\_\_\_\_, a \_\_\_\_\_, hereinafter referred to as "Contractor";

WITNESSETH:

That Contractor, for the consideration hereinafter fully set out, hereby agrees with the County as follows:

1. Scope of Services. Contractor shall furnish all materials and labor necessary for lighting replacement services at the Main Branch of the New Hanover County Public Library located at 201 Chestnut Street Wilmington, NC, Wilmington, as more fully described in the RFP attached hereto as Exhibit "A" and incorporated herein by reference..

2. Time of Performance. Contractor shall begin work on Notice to Proceed. All work shall be completed within one hundred twenty (120) days of said Notice.

3. Payment. County hereby agrees to pay to Contractor a sum not to exceed \_\_\_\_\_ (\$\_\_\_\_\_) Dollars. Payment is contingent upon a final County inspection and acceptance of work.

4. Extra Work. County and Contractor shall negotiate and agree upon the value of any extra work prior to the issuance of a Change Order covering said extra work. Such Change Order shall set forth the corresponding adjustment, if any, to the Contract Price and Contract Time.

5. Indemnity. Contractor shall indemnify and hold County, its officials, officers, agents, and employees, harmless against any and all claims, demands, causes of action, or other liability, including attorney fees, on account of personal injuries or

death or on account of property damages arising out of or relating to the work to be performed by Contractor hereunder, resulting from the negligence of or the willful act or omission of Contractor, its agents, employees and subcontractors

6. Insurance. Before commencing any work, Contractor shall procure insurance in Contractor's name and maintain all insurance policies for the duration of the contract of the types and in the amounts listed in this Agreement. The insurance shall provide coverage against claims for injuries to persons or damages to property which may arise from operations or in connection with the performance of the work hereunder by Contractor, its agents, representatives, employees, or subcontractors, whether such operations by itself or anyone directly or indirectly employed by it.

7. Minimum Scope and Limits of Insurance

7.1 Commercial General Liability

7.1.1 Contractor shall maintain Commercial General Liability (CGL) and if necessary, Commercial Umbrella Liability insurance with a total limit of not less than \$1,000,000 each occurrence for bodily injury and property damage. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project/location or the general aggregate shall be twice the required limit.

7.1.2 CGL insurance shall be written on Insurance Services Office (ISO) "occurrence" form CG 00 01 covering Commercial General Liability or its equivalent and shall cover the liability arising from premises, operations, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

7.1.3 County, its officers, officials, agents, and employees are to be covered as additional insureds under the CGL by endorsement CG 20 10 and CG 20 37 or an endorsement providing equivalent coverage as respects to liability arising out of activities performed by or on behalf of Contractor; products and completed operations of Contractor; premises owned, leased or used by Contractor; and under the commercial umbrella, if any. The coverage shall contain no special limitations on the scope of protection afforded to County, its officers, officials, agents, and employees

7.1.4 The status of County as an additional insured under a CGL obtained in compliance with this agreement shall not restrict coverage under such CGL with respect to the escape or release of pollutants at or from a site owned or occupied by or rented to County.

7.1.5 Contractor's Commercial General Liability insurance shall be primary as respects County, its officers, officials, agents, and employees. Any other insurance or self-insurance maintained by County, its officers, officials, agents, and employees shall be excess of and not contribute with Contractor's insurance.

## 7.2 Workers' Compensation and Employer's Liability

7.2.1 Contractor shall maintain Workers' Compensation as required by the general statutes of the State of North Carolina and Employer's Liability Insurance.

7.2.2 The Employer's Liability, and if necessary, Commercial Umbrella Liability insurance shall not be less than \$500,000 each accident for bodily injury by accident, \$500,000 each employee for bodily injury by disease, and \$500,000 policy limit.

7.2.3 The insurer shall agree to waive all rights of subrogation against County, its officers, officials, agents, and employees for losses arising from work performed by Contractor for County.

## 7.3 Business Auto Liability

7.3.1 Contractor shall maintain Business Auto Liability and, if necessary, Commercial Umbrella Liability insurance with a limit of not less than \$1,000,000 each accident.

7.3.2 Such insurance shall cover liability arising out of any auto, including owned, hired, and non-owned autos.

7.3.3 Business Auto coverage shall be written on ISO form CA 00 01, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in ISO form CA 00 01.

7.3.4 Contractor's Business Auto Liability insurance shall be primary as respects County, its officers, officials, agents, and employees. Any other insurance or self-insurance maintained by County, its officers, officials, agents, and

employees shall be excess of and not contribute with Contractor's insurance. Builders Risk Insurance

7.4 Deductibles and Self-Insured Retentions

7.4.1 Any deductibles or self-insured retentions must be declared to and approved by County. At the option of County, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects County, its officers, officials, agents, and employees; or Contractor shall procure a bond guaranteeing payment of deductibles or self-insured retentions.

7.4.2 Contractor shall be solely responsible for the payment of all deductibles to which such policies are subject, whether or not County is an insured under the policy.

7.5 Miscellaneous Insurance Provisions

7.5.1 The policies are to contain, or be endorsed to contain, the following provisions:

7.5.2 Any failure to comply with reporting provisions of the policies listed in this agreement shall not affect coverage provided to County its officers, officials, and employees.

7.5.3 Each insurance policy required by this contract shall be endorsed to state that coverage shall not canceled by either party except after thirty (30) days prior written notice has been given to County, 230 Government Center Drive #125, Wilmington, NC 28403.

7.5.4 If Contractor's liability policies do not contain the standard ISO separation of insureds provision, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

7.6 Acceptability of Insurers

7.6.1 Insurance is to be placed with insurers licensed to do business in the State of North Carolina with an A.M. Best's rating of no less than A VII unless County has granted specific approval.

7.7 Evidence of Insurance

7.7.1 Contractor shall furnish County with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements prior to commencing the work, and

thereafter upon renewal or replacement of each certified coverage until all operations under this contract are deemed complete.

7.7.2 Evidence of additional insured status shall be noted on the certificate of insurance as per requirements in this agreement.

7.7.3 With respect to insurance maintained after final payment in compliance with requirements, an additional certificate(s) evidencing such coverage shall be provided to County with final application for payment and thereafter upon renewal or replacement of such insurance until the expiration of the period for which such insurance must be maintained.

7.8 Sub-Contractors. Contractor shall include all sub-contractors as insureds under its policies or shall furnish separate certificates for each sub-contractor. All coverage for sub-contractors shall be subject to all of the requirements stated herein. Commercial General Liability coverage shall include independent Contractors' coverage, and Contractor shall be responsible for assuring that all sub-contractors are properly insured.

#### 7.9 Conditions

7.9.1 The insurance required for this contract must be on forms acceptable to County.

7.9.2 Where circumstances warrant, County may, at its discretion subject to acceptance by the Risk Management and Finance Department accept letters of credit or custodial accounts in lieu of specific insurance requirements.

7.9.3 Contractor shall provide that the insurance contributing to satisfaction of insurance requirements in this agreement shall not be canceled, terminated, or modified by Contractor without prior written approval of County.

7.9.4 Contractor shall promptly notify the Property Management Department and the Risk Management Office at (910) 798-7497 of any accidents arising in the course of operations under the contract causing bodily injury or property damage.

7.9.5 County reserves the right to obtain complete, certified copies of all required insurance policies, at any time.

7.9.6 Failure of County to demand a certificate of insurance or other evidence of full compliance with these insurance requirements or failure of

County to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

7.9.7 By requiring insurance herein, County does not represent that coverage and limits will necessarily be adequate to protect Contractor and such coverage and limits shall not be deemed as a limitation of Contractor's liability under the indemnities granted to County in this contract.

7.9.8 If Contractor fails to maintain the insurance as set forth herein, County shall have the right, but not the obligation, to purchase said insurance at Contractor's expense.

7.9.9 Contractor or his engineer may apply to County for approval of higher deductibles based on financial capacity and quality of the carrier affording coverage.

7.9.10 County shall have the right, but not the obligation of prohibiting Contractor or any sub-contractor from entering the project site or withhold payment until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by County.

8. Independent Contractor. The parties hereto mutually agree that Contractor is an independent contractor and not an agent of County, and as such Contractor shall not be entitled to any County employment benefits, such as, but not limited to, vacation, sick leave, insurance, workmen's compensation, or pension and retirement benefits.

9. Warranty. Contractor warrants to County that any and all labor furnished to progress the work under this contract will be competent to perform the tasks undertaken, in a workmanlike manner, so as to meet the standards of workmanlike quality prevailing in North Carolina at the time of construction, that any and all materials and equipment furnished will be of good quality and that the work will be of good quality, free from faults and defects and in strict conformance with this contract. All work not conforming to these requirements may be considered defective. All work shall conform to applicable Federal, State and local laws and regulations. Contractor shall be responsible for all costs, damages and expenses including, but not limited to, penalties, fines and fees, that County may incur as a result of Contractor's failure to perform under this Agreement.

10. Default and Termination. If Contractor fails to prosecute the work with such diligence as will insure its completion within the contract time, or if Contractor breaches any of the terms or conditions contained in this contract and fails to cure said breach within two (2) days of County's mailing of Notice of Default, or otherwise fails to perform the work hereunder to County's reasonable satisfaction, County may terminate this contract forthwith. Upon termination, County may, without prejudice to an action for damages or any other remedy, take the prosecution of the work out of the hands of Contractor. County may enter into another contract for the completion of the contract, or use such other methods as may be required for the completion of the contract. County may deduct all costs of completing the contract from any monies due or which may become due to Contractor. In the event this project is terminated prior to completion of the services by Contractor, Contractor shall be paid for services performed to the date of termination. In no event will the amount due Contractor in the event of termination exceed that amount set forth in this Contract. Nothing contained herein shall prevent County from pursuing any other remedy which it may have against Contractor, including claims for damages.

11. Termination for Convenience. County may terminate this Contract for convenience at any time and without cause upon three (3) business days prior written notice. Upon receipt of notice, Contractor shall immediately discontinue the work and placing of orders for materials, facilities, and supplies in connection with the performance of this Contract.

12. Non-waiver of Rights. The parties hereto agree that failure to insist upon the strict performance of any provision of this Contract, or to exercise any right based upon a breach thereof, or the acceptance of any performance during such breach, shall not constitute a waiver of any rights under this Contract.

13. Conflict of Interest. No paid employee of County shall have a personal or financial interest, direct or indirect, as a contracting party or otherwise, in the performance of this Contract.

14. Subcontracts. Contractor shall utilize no subcontractors for carrying out the services to be performed under this Contract without the written approval of County.

15. Entire Agreement. This agreement constitutes the entire understanding of the parties.

15.1 The contract documents shall be given precedence in the following order: Agreement, Modifications, Addenda, Supplementary Conditions, Special Conditions, Instructions to Bidders, General Conditions, Specifications and Drawings.

15.3 As between numbers and scaled measurements on the Drawings and in the Design, the numbers shall govern; as between larger scale and smaller scale drawings, the larger scale shall govern.

15.3 This contract is intended to be an integral whole and shall be interpreted as internally consistent. Terms required by any one contract document shall be considered as required by the Contract.

15.4 Shop Drawings, Product Data and Samples. Shop Drawings, Product Data, Samples and other submittals from the Contractor do not constitute Contract Documents. Their purpose is merely to demonstrate the manner in which the Contractor intends to implement the Work in conformance with information received from the Contract Documents.

15.5 When a word, term or phrase is used in this contract, it shall be interpreted or construed, first, as defined herein; second, if not defined, according to its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the construction industry, according to its common and customary usage.

15.6 The words "include," "includes," or "including", as used in this contract, shall be deemed to be followed by the phrase, "without limitation".

15.7 Words or terms used as nouns in this contract shall be inclusive of their singular and plural forms, unless the context of their usage clearly requires a contrary meaning.

15.8 The specification herein of any act, failure, refusal, omission, event, occurrence, or condition as constituting a material breach of this contract shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of this contract.

16. Binding Effect. This contract shall be binding upon the parties hereto, and their heirs, successors, executors, administrators and assigns.

17. Further Actions. The parties will make and execute all further instruments and documents required to carry out the purposes and intent of this contract.

18. Inclusive Terms. Use of the masculine herein shall include the feminine and neuter, and the singular shall include the plural.

19. No Construction Against Drafter. This Agreement has been negotiated and drafted by both parties, so if an ambiguity or a question of intent or interpretation arises, this agreement is to be construed as if the parties had drafted it jointly, as opposed to being construed against a party because it was responsible for drafting one or more provisions of the Agreement.

20. Governing Law. All of the terms and conditions contained herein shall be interpreted in accordance with the laws of the State of North Carolina.

21. E-Verify Compliance. Pursuant to Session Law 2013-418, Contractor shall fully comply with the U.S. Department of Homeland Security employee legal status E-Verify requirements for itself and all its subcontractors. County shall be provided affidavits attesting to Contractor's compliance. Violation of the provision, unless timely cured, shall constitute a breach of contract.

22. Notices. All notices required hereunder to be sent to either party shall be sent to the following designated addresses, or to such other address or addresses as may hereafter be designated by either party by mailing of written notice of such change of address, by Certified Mail, Return Receipt Requested:

**To County:**

New Hanover County Property Management  
**Attention:** Dave Wittenberg  
200 Division Drive  
Wilmington, North Carolina, 28401

**To Contractor:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

22. Assignability. It is mutually agreed by the parties hereto that this contract is not transferable and shall not be assigned by either party without the written consent of the other party to this contract.

23. Amendments. This Contract shall not be modified or otherwise amended except in writing signed by the parties.

24. Contract Under Seal. The parties hereto expressly agree to create a contract under seal.

IN WITNESS WHEREOF, the parties have hereunto affixed their hands and seals, the day and year first above written and by authority duly given.

NEW HANOVER COUNTY

[SEAL]

\_\_\_\_\_  
County Manager

ATTEST:

\_\_\_\_\_  
Clerk to the Board

CONTRACTOR

\_\_\_\_\_  
President

ATTEST:

\_\_\_\_\_  
Secretary

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

Approved as to form:

\_\_\_\_\_  
County Finance Director

\_\_\_\_\_  
County Attorney

NORTH CAROLINA

NEW HANOVER COUNTY

I, \_\_\_\_\_, a Notary Public of the State and County aforesaid, certify that Sheila L. Schult acknowledged that she is Clerk to the Board of Commissioners of New Hanover County, and that by authority duly given and as the act of the Board, the foregoing instrument was signed in its name by its \_\_\_\_\_ Manager, sealed with its corporate seal and attested by herself as its Clerk.

WITNESS my hand and official seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2013.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

NORTH CAROLINA

NEW HANOVER COUNTY

I, \_\_\_\_\_, a Notary Public of the State and County aforesaid, certify that \_\_\_\_\_ came before me this day and acknowledged that (s)he is Secretary of Edward Blake, Inc., dba A.B. Blake Electrical Contractors, a North Carolina corporation, and that by County duly given and as the act of the corporation, the foregoing instrument was signed in its name by its President, sealed with its corporate seal and attested by him/herself as its Secretary.

WITNESS my hand and official seal, this \_\_\_\_\_ day of \_\_\_\_\_, 2013.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

STATE OF NORTH CAROLINA  
COUNTY OF NEW HANOVER

AFFIDAVIT

\*\*\*\*\*

I, \_\_\_\_\_ (the individual attesting below), being duly authorized by and on behalf of \_\_\_\_\_ (the entity bidding on project hereinafter "Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a).
3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. (mark Yes or No)
  - a. YES \_\_\_\_\_, or
  - b. NO \_\_\_\_\_
4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This \_\_\_\_ day of \_\_\_\_\_, 2013.

\_\_\_\_\_  
Signature of Affiant  
Print or Type Name: \_\_\_\_\_

State of North Carolina County of New Hanover

Signed and sworn to (or affirmed) before me, this the \_\_\_\_\_ day of \_\_\_\_\_, 2013.

My Commission Expires:

\_\_\_\_\_  
Notary Public

(Affix Official/Notarial Seal)

## SECTION IV

### **MINORITY BUSINESS PARTICIPATION**

It is the policy of the Owner to encourage the use of minority businesses in all County construction contracts and have a verifiable percentage goal of ten percent (10%) participation in the total value of the work. It is the intent of this policy that the Owner, as awarding authority for County construction projects, and the Prime Contractors and Subcontractors performing the construction contracts awarded shall cooperate and in good faith do all things legal, proper, and reasonable to achieve the verifiable goal of ten percent (10%) participation. The Bidder shall make a good faith effort to utilize minority businesses per the requirements of Section I – Information to Bidders, Article I-8.

N.C. Division of Purchasing and Contract's Office for Historically Underutilized Businesses maintains a list of registered companies on "Vendor Link NC". Vendor Link NC is part of the N.C. Interactive Purchasing System and is a free online Internet service for companies to do business with the state. The web address is <http://www.ips.state.nc.us/ips/vendor/>. Questions about Vendor Link NC or IPS should be directed to the help desk (919) 733-4544 or (919) 733-4545.

**SECTION V**  
**REPLACED BY NEW HANOVER CO/CONTRACTOR AGREEMENT**  
**SUPPLEMENTAL CONDITIONS**

**Amending the**  
**New Hanover County Contract – New Hanover County Agreement Between Owner and contractor**

The following Supplemental Conditions modify, change, delete, or add to the Contract or the Amended Conditions. Where any article of the Contract or Amended Conditions is modified or any paragraph deleted, subparagraph or clause thereof is modified, or deleted by these supplements, the unaltered provisions of such article, paragraph, subparagraph or clause shall remain in effect. If there is a discrepancy between the Contract and these Supplemental Conditions, the New Hanover County Agreement shall control.

**1. Construction Document Sets**

“Contractor will be furnished with the following quantities of Drawings and Specifications at no cost to Contractor. Additional copies will be provided at cost.

Electrical Contractor                      4 set(s)

**2. Owner’s Representative**

“Owner’s Representative shall be David Wittenberg unless otherwise stated by the Owner.”

**3. Builder’s Risk**

“Builders Risk Covered Loss Form insurance:

  x   is required for this Project  
       is not required for this Project.”

**4. Bonds**

“Performance and Payment Bonds:

  x   are required.  
       are not required.”

**5. Schedule**

“The following dates shall be adhered to unless modified by mutual written agreement between Contractor and Owner and executed as a Change Order. All dates indicate midnight unless otherwise stipulated.

Notice of Award	T.B.D.
Pre-Construction Conference	T.B.D.
Notice to Proceed (Submittals and Equipment orders)	T.B.D.
Notice to Proceed (Construction)	T.B.D.
Substantial Completion	T.B.D.
Final Completion	T.B.D.

Owner reserves the right to withhold the issuance of Notice to Proceed by up to thirty (30) days. Contractor may not begin work until a written Notice to Proceed is issued. For each day

that Notice to Proceed is withheld pursuant to this paragraph, the dates established for Substantial Completion and Final Completion shall be adjusted. The Contractor shall not be entitled to additional compensation if the Owner withholds the issuance of Notice to Proceed pursuant to this paragraph.”

## **6. Working Hours**

This paragraph shall define the normal scheduled working hours for this project. The contractor shall be responsible for all pay, including overtime pay of New Hanover County employee required to be on site while contractor is present at the facility.

Available Scheduled Working Hours:

Mon-Tue: 9am-8pm

Wed-Thurs: 9am-6pm

Fri-Sat: 9am-5pm

Sun: 1pm-5pm

No work on Holidays.

## **7. Liquidated Damages**

“Substantial Completion Liquidated Damages shall be the sum of **250** dollars per calendar day, and this amount shall be assessed in accordance with the following:

“Contract Work shall begin and proceed in accordance with a Construction Schedule approved by the Design Consultant and Owner. For each day past the date set for Substantial Completion, including time extensions granted by written Change Order in which Contractor does not achieve Substantial Completion, Contractor shall pay to Owner as liquidated damages and not as a penalty an amount per day as stated above until Substantial Completion is achieved. For each day past the actual Final Completion date, including time extensions granted by written Change Order, in which Contractor does not achieve Final Completion, Contractor shall pay to Owner, in addition to the liquidated damages for failure to reach Substantial Completion as set forth above, as liquidated damages and not as a penalty, an amount per day as stated above until Final Completion is achieved. The sums assessed herein neither shall be in lieu or nor shall affect any other remedies available to Owner as a result of the failure of Contractor to complete the work in accordance with the terms of the Contract Documents. Time is of the essence in construing the obligations of Contractor under the Contract Documents and a material consideration thereof.”

END OF SECTION V – SUPPLEMENTAL CONDITIONS

## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and drawing conventions.
7. Miscellaneous provisions.

##### B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls": Com ply with requirements as specified in other sections of project manual and pre-construction meeting minutes.

#### 1.2 PROJECT INFORMATION

##### A. Project Identification: Contract Number 1 -0 , New Hanover County Library-Main Branch Lighting Replacement.

1. Project Location: 201 Chestnut Street, Wilmington, NC.

##### B. Owner: New Hanover County Property Management – 200 Division Drive, Wilmington, NC 28401.

1. Owner's Representative: David Wittenberg, (910) 798-4330.

##### C. Engineer: CBHF Engineers, Jason Famiglietti, PE, (910) 791-4000.

#### 1.3 WORK COVERED BY CONTRACT DOCUMENTS

##### A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Removal and disposal of first floor and second floor magnetic ballast, T12 fluorescent lighting fixtures and HID recessed lights. Replace with new, energy efficient lighting fixtures in existing ceiling grid as indicated in drawings and specifications.
2. Provide new ceiling tiles in existing ceiling grid system and add 2 foot sections of ceiling grid where indicated on drawings.
3. Install new wall mounted lighting fixtures in open stairwell area to replace recessed down lights in 2 story ceiling area in center of library.
4. See base bid and alternates descriptions.

5. Providing necessary paperwork and assistance to comply with Progress Energy "Energy for Business" Program.

B. Type of Contract.

1. Project will be constructed under a single prime contract.

1.4 ACCESS TO SITE

- A. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

- B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveway s and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

- a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
- b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weather tight condition throughout construction period. Repair damage caused by construction operations.

1.5 COORDINATION WITH OCCUPANTS

- A. Owner Occupancy: Owner will occupy site during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
2. Notify Owner not less than 72 hours in advance of activities that will affect Owner 's operations.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

- B. On-Site Work Hours: See Section V - Supplemental Conditions.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
  - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
  - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
  - 1. Notify Owner not less than two days in advance of proposed disruptive operations.
  - 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted on campus.
- F. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

#### 1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
  - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  - 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
  - 3. Keynoting: Materials and products are identified by reference key notes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

# New Hanover County Library-Main Branch Lighting Replacement

## SECTION 012900 - PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
  - 1. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

#### 1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

#### 1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with continuation sheets.
    - b. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Engineer at earliest possible date, but no later than the Pre-Construction Conference.
  - 3. Sub-schedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values coordinated with each phase of payment.

## New Hanover County Library-Main Branch Lighting Replacement

- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values.
1. Identification: Include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Name of Engineer.
    - c. Engineer's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  2. Arrange schedule of values consistent with format of AIA Document G703.
  3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed (as applicable):
    - a. Related Specification Section or Division.
    - b. Description of the Work.
    - c. Name of subcontractor.
    - d. Name of manufacturer or fabricator.
    - e. Name of supplier.
    - f. Change Orders (numbers) that affect value.
    - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
      - 1) Labor.
      - 2) Materials.
      - 3) Equipment.
    - h. Allowances in the Contract.
  4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
  5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
  6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
  7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
  8. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
  9. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
  10. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

## New Hanover County Library-Main Branch Lighting Replacement

- a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
11. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

### 1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Engineer by the 25th of the month. The period covered by each Application for Payment is one month, ending on the 20th of the month.
  1. Submit draft copy of Application for Payment [seven] 7 days prior to due date for review by Engineer.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- E. Application for Payment Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included in Project Manual.
- F. Application for Payment Forms: Use forms acceptable to Engineer and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- G. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
  1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
  2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

## New Hanover County Library-Main Branch Lighting Replacement

- H. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
  2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- I. **Transmittal:** Submit [three] 3 signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- J. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- K. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  5. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.

## New Hanover County Library-Main Branch Lighting Replacement

- L. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors and suppliers due at pre-construction conference.
  2. Schedule of values due at pre-construction conference.
  3. Contractor's construction schedule (preliminary if not final) due at pre-construction conference.
  4. Products list (preliminary if not final).
  5. Schedule of unit prices due at pre-construction conference.
  6. Submittal schedule (preliminary if not final) due at pre-construction conference.
  7. List of Contractor's staff assignments (project manager and job superintendent).
  8. Copies of building permits due at pre-construction conference, if possible.
- M. Application for Payment at Substantial Completion: After Engineer issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- N. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  6. AIA Document G707, "Consent of Surety to Final Payment."
  7. Evidence that claims have been settled.
  8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
  9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

# New Hanover County Library-Main Branch Lighting Replacement

## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. Requests for Information (RFIs).
  - 2. Project meetings.

#### 1.2 DEFINITIONS

- A. RFI: Request from Owner, Engineer, or Contractor seeking information required by or clarifications of the Contract Documents.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
  - 3. Drawing number and detail references, as appropriate, covered by subcontract.

#### 1.4 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, which depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

## New Hanover County Library-Main Branch Lighting Replacement

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
  2. Preparation of the schedule of values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Preinstallation conferences.
  7. Project closeout activities.
  8. Startup and adjustment of systems.

### 1.5 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Engineer will return RFIs submitted to Engineer by other entities controlled by Contractor with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Project number.
  3. Date.
  4. Name of Contractor.
  5. Name of Engineer.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.
  13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Engineer.

## New Hanover County Library-Main Branch Lighting Replacement

- D. Engineer's Action: Engineer will review each RFI, determine action required, and respond. Allow seven working days for Engineer's response for each RFI. RFIs received by Engineer after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for coordination information already indicated in the Contract Documents.
    - d. Requests for adjustments in the Contract Time or the Contract Sum.
    - e. Requests for interpretation of Engineer's actions on submittals.
    - f. Incomplete RFIs or inaccurately prepared RFIs.
  2. Engineer's action may include a request for additional information, in which case Engineer's time for response will date from time of receipt of additional information.
  3. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contract or to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Engineer.
  4. RFI number including RFIs that were dropped and not submitted.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Engineer's response was received.
- F. On receipt of Engineer's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer within seven days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
- 1.6 PROJECT MEETINGS
- A. General: Engineer will schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times.

## New Hanover County Library-Main Branch Lighting Replacement

2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer, within three days of the meeting.
- B. Preconstruction Conference: Engineer will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Engineer, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and long-lead items.
    - d. Designation of key personnel and their duties.
    - e. Procedures for processing field decisions and Change Orders.
    - f. Procedures for RFIs.
    - g. Procedures for testing and inspecting.
    - h. Procedures for processing Applications for Payment.
    - i. Distribution of the Contract Documents.
    - j. Submittal procedures.
    - k. Preparation of record documents.
    - l. Use of the premises and existing building.
    - m. Work restrictions.
    - n. Working hours.
    - o. Owner's occupancy requirements.
    - p. Responsibility for temporary facilities and controls.
    - q. Procedures for disruptions and shutdowns.
    - r. Construction waste management and recycling.
    - s. Parking availability.
    - t. Office, work, and storage areas.
    - u. Equipment deliveries and priorities.
    - v. First aid.
    - w. Security.
    - x. Progress cleaning.
  3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Progress Meetings: Engineer will conduct progress meetings at weekly intervals.
1. Attendees: In addition to representatives of Owner and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

## New Hanover County Library-Main Branch Lighting Replacement

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include to pics for discussion as appropriate to status of Project.
  - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - 1) Review schedule for next period.
  - b. Review present and future needs of each entity present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Status of submittals.
    - 4) Deliveries.
    - 5) Off-site fabrication.
    - 6) Access.
    - 7) Site utilization.
    - 8) Temporary facilities and controls.
    - 9) Progress cleaning.
    - 10) Quality and work standards.
    - 11) Status of correction of deficient items.
    - 12) Field observations.
    - 13) Status of RFIs.
    - 14) Status of proposal requests.
    - 15) Pending changes.
    - 16) Status of Change Orders.
    - 17) Pending claims and disputes.
    - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
  - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Contractor's construction schedule.
  - 2. Construction schedule updating reports.
  - 3. Daily construction reports.
  - 4. Site condition reports.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
  - 2. Predecessor Activity: An activity that precedes another activity in the network.
  - 3. Successor Activity: An activity that follows another activity in the network.
- B. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- C. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. Working electronic copy of schedule file, where indicated.
  - 2. PDF electronic file.
  - 3. One paper copies.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.

## New Hanover County Library-Main Branch Lighting Replacement

- D. Daily Construction Reports: Submit at weekly intervals.
- E. Site Condition Reports: Submit at time of discovery of differing conditions.

### 1.4 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from entities involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

### 2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
  - 1. Activity Duration: Define activities so no activity is longer than 7 days, unless specifically allowed by Engineer.
  - 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
    - a. Major items or pieces of equipment.
  - 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
  - 4. Startup and Testing Time: Include no fewer than 3 days for startup and testing.
  - 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Engineer's administrative procedures necessary for certification of Substantial Completion.
  - 6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

## New Hanover County Library-Main Branch Lighting Replacement

1. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Coordination with existing construction.
    - b. Limitations of continued occupancies.
    - c. Uninterruptible services.
    - d. Partial occupancy before Substantial Completion.
    - e. Use of premises restrictions.
    - f. Provisions for future construction.
    - g. Seasonal variations.
    - h. Environmental control.
  2. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
  2. Unanswered Requests for Information.
  3. Rejected or unreturned submittals.
  4. Notations on returned submittals.
  5. Pending modifications affecting the Work and Contract Time.
- F. Recovery Schedule: When periodic update indicates the Work is 7 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.
- G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
- ### 2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)
- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule before or at the Pre-Construction conference.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.
- ### 2.3 REPORTS
- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.

## New Hanover County Library-Main Branch Lighting Replacement

2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events.
10. Stoppages, delays, shortages, and losses.
11. Emergency procedures.
12. Orders and requests of authorities having jurisdiction.
13. Change Orders received and implemented.
14. Construction Change Directives received and implemented.
15. Services connected and disconnected.
16. Equipment or system tests and startups.
17. Partial completions and occupancies.
18. Substantial Completions authorized.

- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule at each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Engineer and Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

# New Hanover County Library-Main Branch Lighting Replacement

## SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
  - 1. Preconstruction photographs.
  - 2. Periodic construction photographs.

#### 1.2 INFORMATIONAL SUBMITTALS

- A. Digital Photographs: Submit unaltered, original, full-size image files within three days of taking photographs.
  - 1. Digital Camera: Minimum sensor resolution of 3 megapixels.
  - 2. Identification: Provide the following information with each image description in file metadata tag:
    - a. Name of Project.
    - b. Name and contact information for photographer.
    - c. Date photograph was taken.
    - d. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.

#### 1.3 USAGE RIGHTS

- A. Obtain and transfer copy right usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

### PART 2 - PRODUCTS

#### 2.1 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, with minimum size of 3 megapixels.

### PART 3 - EXECUTION

#### 3.1 CONSTRUCTION PHOTOGRAPHS

- A. Photographer: Engage a qualified photographer to take construction photographs.

## New Hanover County Library-Main Branch Lighting Replacement

- B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
  - 1. Date and Time: Include date and time in file name for each image.
  - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Engineer.
- D. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
- E. Periodic Construction Photographs: Take photographs weekly, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- F. Final Completion Construction Photographs: Take color photographs after date of Substantial Completion for submission as Project Record Documents.

END OF SECTION 013233

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
  - 1. Initial Review: Allow 14 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
  - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  - 3. Resubmittal Review: Allow 7 days for review of each resubmittal.
- C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

## New Hanover County Library-Main Branch Lighting Replacement

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
  2. Name file with submittal number or other unique identifier, including revision identifier.
    - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
  3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Engineer.
  4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
    - a. Project name.
    - b. Date.
    - c. Name and address of Engineer.
    - d. Name of Construction Manager.
    - e. Name of Contractor.
    - f. Name of firm or entity that prepared submittal.
    - g. Names of subcontractor, manufacturer, and supplier.
    - h. Category and type of submittal.
    - i. Submittal purpose and description.
    - j. Specification Section number and title.
    - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
    - l. Drawing number and detail references, as appropriate.
    - m. Location(s) where product is to be installed, as appropriate.
    - n. Related physical samples submitted directly.
    - o. Indication of full or partial submittal.
    - p. Transmittal number, numbered consecutively.
    - q. Submittal and transmittal distribution record.
    - r. Other necessary identification.
    - s. Remarks.
  5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
    - a. Project name.
    - b. Number and title of appropriate Specification Section.
    - c. Manufacturer name.
    - d. Product name.
- D. Options: Identify options requiring selection by Engineer.
- E. Deviations: Identify deviations from the Contract Documents on submittals.
- F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.

## New Hanover County Library-Main Branch Lighting Replacement

2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  3. Resubmit submittals until they are marked with approval notation from Engineer's action stamp.
- G. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- H. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's action stamp.

## PART 2 - PRODUCTS

### 2.1 SUBMITTAL PROCEDURES

#### A. General Submittal Procedure Requirements:

1. Submit electronic submittals via email as PDF electronic files.
  - a. Engineer will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or to her individual authorized to sign documents on behalf of that entity.
  - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.

#### B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
  - a. Manufacturer's catalog cuts.
  - b. Manufacturer's product specifications.
  - c. Standard color charts.
  - d. Statement of compliance with specified referenced standards.
  - e. Testing by recognized testing agency.
  - f. Application of testing agency labels and seals.
  - g. Notation of coordination requirements.
  - h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:

## New Hanover County Library-Main Branch Lighting Replacement

- a. Wiring diagrams showing factory-installed wiring.
  - b. Printed performance curves.
  - c. Operational range diagrams.
  - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before or concurrent with Samples.
  6. Submit Product Data in the following format:
    - a. PDF electronic file.
    - b. One paper copies of Product Data unless otherwise indicated.
- C. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."
- D. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- E. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements as specified in other sections of project manual.
- F. Closeout Submittals and Maintenance Material Submittals: Comply with requirements as specified in other sections of project manual.
- G. Maintenance Data: Comply with requirements as specified in other sections of project manual.
- H. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Engineers and owners, and other information specified.
- I. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- J. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- K. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- L. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- M. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- N. Schedule of Tests and Inspections: Comply with requirements as specified in other sections of project manual.

## New Hanover County Library-Main Branch Lighting Replacement

- O. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

### PART 3 - EXECUTION

#### 3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.
- B. Project Closeout and Maintenance Material Submittals: Comply with requirements as specified in other sections of project manual.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

#### 3.2 ENGINEER'S ACTION

- A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or revisions required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- C. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

## New Hanover County Library-Main Branch Lighting Replacement

### SECTION 017823 - OPERATION AND MAINTENANCE DATA

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Operation manuals for systems, subsystems, and equipment.
3. Product maintenance manuals.
4. Systems and equipment maintenance manuals.

##### 1.2 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Engineer will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

- B. Format: Submit operations and maintenance manuals in the following format:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Engineer.
  - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
  - b. Enable inserted reviewer comments on draft submittals.
2. Four paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Engineer will return all copies.

- C. Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 3 days before commencing demonstration and training. Engineer will return copy with comments.

1. Correct or revise each manual to comply with Engineer's comments. Submit copies of each corrected manual within days of receipt of Engineer's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS

- A. Directory: Prepare a single, comprehensive directory of operation and maintenance data and materials, listing items and their location to facilitate ready access to desired information.
- B. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
  - 1. Title page.
  - 2. Table of contents.
  - 3. Manual contents.
- C. Title Page: Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.
  - 5. Name and contact information for Contractor.
  - 6. Name and contact information for Construction Manager.
  - 7. Name and contact information for Engineer.
  - 8. Name and contact information for Commissioning Authority.
  - 9. Names and contact information for major consultants to the Engineer that designed the systems contained in the manuals.
  - 10. Cross-reference to related systems in other operation and maintenance manuals.
- D. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- E. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- F. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
  - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
  - 2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

## New Hanover County Library-Main Branch Lighting Replacement

- G. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name and subject matter of contents. Indicate volume number for multiple-volume sets.
  2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
  3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.

### 2.2 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
  2. Performance and design criteria if Contractor is delegated design responsibility.
  3. Operating standards.
  4. Operating procedures.
  5. Operating logs.
  6. Wiring diagrams.
  7. Control diagrams.
  8. Piped system diagrams.
  9. Precautions against improper use.
  10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
1. Product name and model number. Use designations for products indicated on Contract Documents.
  2. Manufacturer's name.
  3. Equipment identification with serial number of each component.
  4. Equipment function.
  5. Operating characteristics.
  6. Limiting conditions.
  7. Performance curves.
  8. Engineering data and tests.
  9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:

## New Hanover County Library-Main Branch Lighting Replacement

1. Startup procedures.
  2. Equipment or system break-in procedures.
  3. Routine and normal operating instructions.
  4. Regulation and control procedures.
  5. Instructions on stopping.
  6. Normal shutdown instructions.
  7. Seasonal and weekend operating instructions.
  8. Required sequences for electric or electronic systems.
  9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

### 2.3 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
1. Product name and model number.
  2. Manufacturer's name.
  3. Color, pattern, and texture.
  4. Material and chemical composition.
  5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
  2. Types of cleaning agents to be used and methods of cleaning.
  3. List of cleaning agents and methods of cleaning detrimental to product.
  4. Schedule for routine cleaning and maintenance.
  5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

## New Hanover County Library-Main Branch Lighting Replacement

### 2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
  - 1. Standard maintenance instructions and bulletins.
  - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
  - 3. Identification and nomenclature of parts and components.
  - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
  - 1. Test and inspection instructions.
  - 2. Troubleshooting guide.
  - 3. Precautions against improper maintenance.
  - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - 5. Aligning, adjusting, and checking instructions.
  - 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

## New Hanover County Library-Main Branch Lighting Replacement

### PART 3 - EXECUTION

#### 3.1 MANUAL PREPARATION

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated in to the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

END OF SECTION 017823

# New Hanover County Library-Main Branch Lighting Replacement

## SECTION 017839 - PROJECT RECORD DOCUMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
  - 1. Record Drawings.
  - 2. Record Product Data.
- B. Related Requirements:
  - 1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

#### 1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit one set of marked-up record prints.

### PART 2 - PRODUCTS

#### 2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised Drawings as modifications are issued.
  - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Record data as soon as possible after obtaining it.
    - c. Record and check the markup before enclosing concealed installations.
  - 2. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  - 3. Mark record sets with **red colored pen**. Use other colors to distinguish between changes for different categories of the Work at same location.

## New Hanover County Library-Main Branch Lighting Replacement

4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
5. Electrical Contractor shall mark any circuiting changes on both the plans and panel schedules, including revised loads in the schedules.

### 2.2 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as paper copy.

## PART 3 - EXECUTION

### 3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office a part from the Contract Documents used for construction. **Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss.** Provide access to project record documents for Engineer's reference during normal working hours.

END OF SECTION 017839

### Lighting Fixture Schedule

MARK	DESCRIPTION	SIZE/APERTURE	VOLTS	LAMPS	WATTS	LENS	TRIM/DOOR	TRIM COLOR	MOUNTING HEIGHT	REMARKS
A	FLUORESCENT LIGHT FIXTURE, INTEGRAL T-BAR SAFETY CLIPS SPRING LOADED LATCHES, (LITHONIA 2SP, METALUX 20CB, DAY-BRITE 2DPG ) SERIES	2X4	120VOLT	2-18 32W, FLUOR.	50 MAX	ACRYLIC PRISMATIC	FLUSH	WHITE	RECESSED GRID LAY-IN CEILING	PROVIDE ONE (1) ELECTRONIC BALLAST
A,ALT	LED LIGHT FIXTURE, INTEGRAL T-BAR SAFETY CLIPS SPRING LOADED LATCHES, DAYBRITE DUALED SERIES OR APPROVED EQUAL	2X4	120VOLT	4900 LUMEN LED	55	SOFT OPAL	FLUSH	WHITE	RECESSED GRID LAY-IN CEILING	LED DRIVER
AA	FLUORESCENT LIGHT FIXTURE, INTEGRAL T-BAR SAFETY CLIPS SPRING LOADED LATCHES, (LITHONIA 2SP, METALUX 20CB, DAY-BRITE 2DPG ) SERIES	2X2	120VOLT	2-FB31U6 FLUOR.	55	ACRYLIC PRISMATIC	FLUSH	WHITE	RECESSED GRID LAY-IN CEILING	PROVIDE ONE (1) ELECTRONIC BALLAST
AA,ALT	LED LIGHT FIXTURE, INTEGRAL T-BAR SAFETY CLIPS SPRING LOADED LATCHES, DAYBRITE DUALED SERIES OR APPROVED EQUAL	2X2	120VOLT	4400 LUMEN LED	53	SOFT OPAL	FLUSH	WHITE	RECESSED GRID LAY-IN CEILING	PROVIDE ONE (1) ELECTRONIC BALLAST
C	RECESSED LED 8" REMODEL DOWNLIGHT WITH INTEGRAL LED HEAT SINK AND DRIVER, MAXILUME HHR8-LED 8" SERIES	8"	120VOLT	2000 LUMEN LED	32	OPEN	----	WHITE	RECESSED GYP CEILING	LED DRIVER 8501 REFLECTOR WITH DIFFUSE LENS
CC	RECESSED LED 8" REMODEL DOWNLIGHT WITH INTEGRAL LED HEAT SINK AND DRIVER, MAXILUME HHR8-LED 8" SERIES	8"	120VOLT	2000 LUMEN LED	32	OPEN	----	WHITE	RECESSED GYP CEILING	LED DRIVER, WET LOCATION LISTED 8501 REFLECTOR WITH DIFFUSE LENS
CC, EM	RECESSED LED 8" REMODEL DOWNLIGHT WITH INTEGRAL LED HEAT SINK AND DRIVER, MAXILUME HHR8-LED 8" SERIES, 90 MIN. EMERGENCY BATTERY	8"	120VOLT	2000 LUMEN LED	32	OPEN	----	WHITE	RECESSED GYP CEILING	LED DRIVER, WET LOCATION LISTED 8501 REFLECTOR WITH DIFFUSE LENS
D	WALL MOUNTED FLUORESCENT OVER MIRROR LITHONIA W, METALUX BAU, DAYBRITE AWB SERIES	4 FT	120VOLT	2-18 32W, FLUOR.	50 MAX	ACRYLIC PRISMATIC	ALUMINUM	WHITE	WALL MOUNTED ABOVE MIRROR	PROVIDE ONE (1) ELECTRONIC BALLAST
F	WALL MOUNTED FLUORESCENT UP/DOWN LIGHT FIXTURE LATERA WALL MOUNT MODEL LT02	4 FT	120VOLT	2-18 32W, FLUOR.	108	PARABOLIC LOUVER	ALUMINUM	WHITE	WALL APPROX 16" AFF SURFACE	PROVIDE TWO ELECTRONIC BALLASTS OPEN TOP, PROVIDE PT. BY PT. WITH LIGHTING LEVELS
G	FLUORESCENT STRIP LIGHT FIXTURE, SURFACE MOUNT (LITHONIA Z STRIP, METALUX SNE, DAY-BRITE T232) SERIES	4 FT	120VOLT	1-18 32W, FLUOR.	25	----	----	WHITE	SURFACE	PROVIDE ONE (1) ELECTRONIC BALLAST
H	FLUORESCENT LIGHT FIXTURE, SURFACE OR SUSPENSION MOUNT (LITHONIA Z STRIP, METALUX SNE, DAY-BRITE T232) SERIES	4 FT	120VOLT	2-18 32W, FLUOR.	50 MAX	----	----	WHITE	SURFACE	PROVIDE ONE (1) ELECTRONIC BALLAST

**NOTES:**

- ALL 4" FLUORESCENT LAMPS SHALL BE HIGH PERFORMANCE, 3500 K, F032, 3100 MINIMUM LUMENS. OTHER LAMPS SHALL BE AS SCHEDULED.
- ACRYLIC PRISMATIC LENSES SHALL BE 0.156" NOMINAL MINIMUM THICKNESS.
- ALL 4" FLUORESCENT FIXTURES SHALL BE PROVIDED WITH 0.77 MINIMUM BALLAST FACTOR, 2 LAMP, DOMESTIC, ELECTRONIC BALLASTS WITH 5 YEAR WARRANTY, UNO.
- PROVIDE MANUFACTURER INSTALLED NEC 2011 ARTICLE 410.130 (G) COMPLIANT DISCONNECTING MEANS FOR ALL APPLICABLE FIXTURES.
- OTHER THAN 4" FLUORESCENT LAMPS SHALL HAVE CRI GREATER THAN OR EQUAL TO 80, BALLASTS SHALL HAVE THD GREATER THAN OR EQUAL TO 32% AT FULL LIGHT OUTPUT AND PF SHALL BE GREATER THAN OR EQUAL TO 90.
- FIXTURE SUBMITTALS SHALL INCLUDE FIXTURE, BALLAST AND LAMP INFORMATION PROVING PROGRESS ENERGY'S GUIDELINE COMPLIANCE.
- THE ABOVE FIXTURE TYPES ARE LISTED AS THE DESIGN BASIS.
- LED RECESSED DOWNLIGHTS SHALL BE 35 LUMENS PER WATT MINIMUM AND MUST BE LESS THAN 18 WATTS.
- ALL LED FIXTURES SHALL HAVE GREATER THAN 3 YEAR WARRANTY AND LM-79 AND LM-80 TEST DOCUMENTS.
- ALL LED FIXTURES SHALL BE MIN. OF 85 LPW, SHALL BE LESS THAN OR EQUAL TO 5000K, SHALL HAVE MIN. CRI OF 80, SHALL HAVE RATED LIFE OF 50,000 HRS MIN, UNO.

### Electrical Legend

SYMBOL	DESCRIPTION
	2FT OR 4FT FLUORESCENT STRIP LIGHT FIXTURE, SURFACE MOUNTED
	2x4 FLUORESCENT LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	2x2 FLUORESCENT LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	RECESSED, FLUORESCENT LIGHT FIXTURE INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	CEILING MOUNTED TRACK LIGHT FIXTURE INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	WALL MOUNTED INCANDESCENT OR FLUORESCENT LIGHT FIXTURE. INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	WALL MOUNTED HID, FLUORESCENT OR INCANDESCENT LIGHT FIXTURE INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	HATCHING INDICATES ITEMS AREAS OF DEMOLITION

**NOTE:**

ALL BALLASTS, LAMPS AND OTHER MATERIALS SHALL BE RECYCLED OR DISPOSED OF IN COMPLIANCE WITH LOCAL REQUIREMENTS. PCB BALLASTS AND LAMPS ARE HAZARDOUS MATERIAL AND SHALL BE DISPOSED OF PROPERLY.

### Electrical System and Equipment Method of Compliance

Prescriptive  Performance  Energy Cost Budget

Provide a standard riser diagram which indicates designated points for check metering. Provide a standard panel schedule description which identifies different enduse loads.

**Lighting Schedule:**

lamp type required in fixture: see fixture schedule  
 number of lamps in fixture: see fixture schedule  
 ballast type used in the fixture: see fixture schedule  
 number of ballasts in fixture: see fixture schedule  
 total wattage per fixture: see fixture schedule

**Total interior wattage:**

Allowed = 31,478 Watts  
 Specified = 24,821 Watts

Equipment schedules with motors (not used for mechanical systems):

motor horse power: N/A  
 number of phases: N/A  
 minimum efficiency: N/A  
 motor type: N/A  
 # of poles: N/A

### Load Summary

Voltage	Phase
208	3
<b>LOADS REMOVED THIS PROJECT</b>	
<b>Lighting</b>	
Total Lighting Load	73,305 VA
LIGHTING LOAD x 1.25	91,631 VA
Total Lighting Removed This Project	254 Amps
<b>LOAD ADDED THIS PROJECT</b>	
<b>Lighting</b>	
Total Lighting Load	24,821 VA
LIGHTING LOAD x 1.25	31,026 VA
Total Lighting Added This Project	86 Amps
<b>LOADS REMOVED ARE GREATER THAN LOADS ADDED.</b>	

### Excerpts From: Energy Efficiency for Business Program Policies and Procedures

- LIGHTING EQUIPMENT SPECIFICATIONS
  - ALL BALLASTS, LAMP FIXTURES AND OTHER MATERIALS SHALL BE RECYCLED OR DISPOSED OF IN COMPLIANCE WITH LOCAL REQUIREMENTS. PCB BALLASTS AND LAMPS ARE HAZARDOUS MATERIALS AND SHOULD BE DISPOSED OF PROPERLY. MANUFACTURER SPECIFICATIONS OF LAMPS, BALLASTS, AND FIXTURES MUST ACCOMPANY THE APPLICATION. NATIONAL RECOGNIZED TESTING LABORATORY (E.G., UL) RATINGS ARE MANDATORY WHERE APPLICABLE.
- WATTS REDUCED LIGHTING MEASURE CATEGORY
  - AN INCENTIVE MAY NOT BE PAID IF WORK COMMENCES PRIOR TO APPROVAL TO PROCEED.
  - INCENTIVES FOR THIS MEASURE ARE CALCULATED BASED ON THE REDUCTION IN CONNECTED WATTS. DOCUMENTATION SUPPORTING THE REDUCED WATTAGE CALCULATION SHOWING EXISTING FIXTURE INPUT WATTAGES, AND THE PROPOSED FIXTURE INPUT WATTAGES MUST BE INCLUDED WITH THE APPLICATION.
- HARDWIRED COMPACT FLUORESCENT FIXTURES
  - FOR HARDWIRED CFL FIXTURES, ONLY COMPLETE NEW FIXTURES OR MODULAR HARDWIRED RETROFITS WITH ELECTRONIC BALLASTS QUALIFY. THE CFL BALLAST MUST BE PROGRAMMED START OR PROGRAMMED RAPID START WITH A POWER FACTOR (PF) ≥ 90 AND A TOTAL HARMONIC DISTORTION (THD) ≤ 20%.
- OTHER LENGTH (NOT 4 FOOT), LINEAR AND U-TUBE T-8 LAMPS
  - THE LAMP MUST HAVE A COLOR RENDERING INDEX (CRI) ≥ 80, THE BALLAST MUST HAVE A TOTAL HARMONIC DISTORTION (THD) ≤ 32% AT FULL LIGHT OUTPUT, AND THE POWER FACTOR (PF) MUST BE ≥ 0.90.
- OCCUPANCY SENSOR CONTROLS
  - PASSIVE INFRARED, ULTRASONIC DETECTORS, FIXTURE-INTEGRATED SENSORS OR SENSORS WITH A COMBINATION THEREOF ARE ELIGIBLE. ALL SENSORS MUST CONTROL INTERIOR OR EXTERIOR LIGHTING FIXTURES. THE INCENTIVE IS CALCULATED ON A PER-WATT-CONTROLLED BASIS.
- HIGH PERFORMANCE T8 OR REDUCED WATTAGE 4-FOOT T8 SYSTEMS
  - THIS MEASURE CONSISTS OF RETROFITTING EXISTING T12 LAMPS AND MAGNETIC BALLASTS WITH EITHER HIGH PERFORMANCE T8 LAMPS AND ELECTRONIC BALLASTS OR REDUCED WATTAGE T8 LAMPS AND ELECTRONIC BALLASTS. THIS MEASURE IS BASED ON THE CONSORTIUM FOR ENERGY EFFICIENCY (CEE) HIGH PERFORMANCE AND REDUCED WATTAGE T8 SPECIFICATIONS FOR COMMERCIAL LIGHTING ([www.cee1.org](http://www.cee1.org)) AND IS SUMMARIZED BELOW.

**CEE Performance Characteristics for Systems**

Mean System Efficacy = 90 Mean Lumens per Watt (MLPW) for Instant Start Ballasts  
 = 88 MLPW for Programmed Rapid Start Ballasts

**Performance Characteristics for Lamps**

Color Rendering Index(CRI) = 80  
 Minimum Initial Lamp Lumens = 3100 Lumens (= 2950 Lumens, for lamp with color temperatures = 4500K)  
 Lamp Life = 24,000 hours  
 Lumen Maintenance or Minimum Mean Lumens = 90% or = 2,900 Mean Lumens

**Performance Characteristics for Ballasts**

Ballast Efficacy Factor (BEF) BEF = (BF x 100) / Ballast Input Watts **Instant-Start Ballast (BEF)**

Lamps	Low BF = 0.85	Norm 0.85 < BF = 1.0	High BF = 1.01
1	> 3.08	> 3.11	NA
2	> 1.60	> 1.58	> 1.55
3	= 1.04	= 1.05	= 1.04
4	= 0.79	= 0.80	= 0.77

**Programmed Rapid Start Ballast (BEF)**

Lamps	Low BF = 0.85	Norm 0.85 < BF = 1.0	High BF = 1.01
1	= 2.84	= 2.84	NA
2	= 1.48	= 1.47	= 1.51
3	= 0.97	= 1.00	= 1.00
4	= 0.76	= 0.75	= 0.75

Ballast Frequency = 20 to 33 kHz or = 40 kHz  
 Power Factor = 0.90  
 Total Harmonic Distortion = 20%

\*For lamps with color temperatures >4500 K, 2950 minimum initial lamp lumens are specified pending further consideration by CEE.

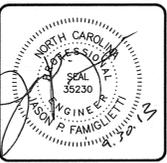
\*\* Life rating is based on a Rapid Start or Programmed-Rapid Start Ballast tested in accordance to ANSI C82.11. When used on an Instant Start Ballast, life may be slightly reduced depending upon the operating hours per start.

\*\*\* Mean lumens measures at 7,200 hours.

\*\*\*\* Multi-Voltage Ballasts must meet or exceed the listed Ballast Efficiency factor when operated on at least one of the intended operating voltages

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 NCEI P-0005



New Hanover County Library - Main Branch  
 Lighting Replacement  
 201 Chestnut Street  
 Wilmington, NC  
**Electrical Legend and Schedules**

Job No.:	10219
Drawn:	PEM
Designed:	JPF
Checked:	JPF

Drawing No:  
**E0.1**  
 Revision:  
 0

### Electrical Specifications:

#### 16000 GENERAL ELECTRICAL

- A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS INsofar AS THEY APPLY.
  1. THE NATIONAL ELECTRICAL CODE, 2011 EDITION
  2. THE NATIONAL ELECTRICAL SAFETY CODE
  3. UNDERWRITER'S LABORATORIES, INC., STANDARDS AND APPROVED LISTINGS
  4. ELECTRICAL TESTING LABORATORIES STANDARDS
  5. NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION AND REVISIONS
  6. ALL LOCAL CODES AND ORDINANCES
- B. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND SHALL PAY FOR SAME. THE CONTRACTOR SHALL FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
- C. ALL WORK SHALL BE DONE BY SKILLED MECHANICS AND SHALL PRESENT A NEAT, TRIM AND WORKMANLIKE FINISH WHEN COMPLETED.
- D. COORDINATION: DO NOT SCALE ELECTRICAL DRAWINGS. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL CONFIRM EXACT MEASUREMENTS IN THE PLACEMENT OF FIXTURES. THE DRAWINGS DO NOT SHOW ALL OFFSETS DETAILS AS TO ELEVATIONS AND LOCATIONS OF VARIOUS FITTINGS, CONDUIT, ETC., AND DO NOT SHOW ALL OFFSETS AND OTHER INSTALLATION DETAILS WHICH MAY BE REQUIRED.
- E. MATERIALS: ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE MANUFACTURER'S NAME, TRADE NAME, AND UL LABEL WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR MATERIAL. MATERIALS SHALL BE THE STANDARD PRODUCTS OF MANUFACTURER'S REGULARLY ENGAGED IN THE MANUFACTURE OF THE REQUIRED TYPE OF EQUIPMENT AND THE MANUFACTURER'S LATEST APPROVED DESIGN. OTHER MATERIALS AND EQUIPMENT TO BE AS SHOWN ON THE DRAWINGS. WHERE NO SPECIFIC MATERIAL TYPE IS MENTIONED, A HIGH QUALITY PRODUCT OF A REPUTABLE MANUFACTURER MAY BE USED PROVIDED IT CONFORMS TO THE REQUIREMENTS OF THESE SPECIFICATIONS.
- F. WIRING METHODS: MATCH EXISTING WIRING METHODS.
- G. ELECTRICAL DISTRIBUTION SYSTEM TESTS
  1. ALL CURRENT CARRYING PHASE CONDUCTORS AND NEUTRALS SHALL BE TESTED AS INSTALLED, AND BEFORE CONNECTIONS ARE MADE, FOR INSULATION RESISTANCE AND ACCIDENTAL GROUNDS. THIS SHALL BE DONE WITH A 500 VOLT MEGGER.
    - a. MINIMUM READINGS SHALL BE ONE MILLION (1,000,000) OHMS FOR #6 WIRE AND SMALLER, 250,000 OHMS OR MORE FOR #4 WIRE OR LARGER BETWEEN CONDUCTORS AND BETWEEN CONDUCTOR AND THE GROUNDED METAL RACEWAY.
    - b. AFTER ALL FIXTURES, DEVICES AND EQUIPMENT ARE INSTALLED AND ALL CONNECTIONS COMPLETED TO EACH PANEL, THE CONTRACTOR SHALL DISCONNECT THE NEUTRAL FEEDER CONDUCTOR FROM THE NEUTRAL BAR AND TAKE A MEGGER READING BETWEEN THE NEUTRAL BAR AND GROUNDED ENCLOSURE. IF THIS READING IS LESS THAN 250,000 OHMS, THE CONTRACTOR SHALL DISCONNECT THE BRANCH CIRCUIT NEUTRAL WIRES FROM THIS NEUTRAL BAR. HE SHALL THEN TEST EACH ONE SEPARATELY TO THE PANEL AND UNTIL THE LOW READING ONES ARE FOUND. THE CONTRACTOR SHALL CORRECT TROUBLES, RECONNECT AND RETEST UNTIL AT LEAST 250,000 OHMS FROM THE NEUTRAL BAR TO THE GROUNDED PANEL CAN BE ACHIEVED WITH ONLY THE NEUTRAL FEEDER DISCONNECTED.
    - c. THE CONTRACTOR SHALL CERTIFY IN WRITING THE ABOVE HAS BEEN DONE AND TABULATE THE MEGGER READINGS FOR EACH PANEL.
  2. TEST ALL SYSTEMS MODIFIED OR DISTURBED BY THIS CONSTRUCTION FOR PROPER OPERATION AND FUNCTION IN A MANNER APPROVED BY THE SYSTEM MANUFACTURER. PROVIDE WRITTEN CERTIFICATION OF ALL TESTS.
- H. EXISTING BUILDINGS AND CONSTRUCTION
  1. THE CONTRACTOR IS CAUTIONED THAT WORK TO BE PERFORMED UNDER THIS CONTRACT IS TO BE ACCOMPLISHED IN AN EXISTING OCCUPIED BUILDING. ALL SUCH WORK SHALL BE SCHEDULED AND ARRANGED TO BE DONE AT THE CONVENIENCE OF THE OWNER SO AS NOT TO INTERFERE WITH, DISRUPT, OR DISTURB NORMAL OPERATIONS IN THE BUILDING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER BEFORE PROCEEDING WITH WORK IN EXISTING BUILDINGS AND SHALL WORK IN EXISTING BUILDINGS ON SCHEDULE AS AGREED UPON WITH THE OWNER.
  2. THE CONTRACTOR SHALL, AT ALL TIMES, PROVIDE SAFETY BARRIERS, PROTECTIVE DEVICES, SCREENING, DUST BARRIERS, ETC., AS REQUIRED TO MAINTAIN THE SAFETY AND COMFORT OF THE BUILDING'S PERSONNEL AND/OR OCCUPANTS IN OR NEAR HIS WORK AREA.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP IN CONNECTION WITH HIS WORK IN EXISTING BUILDINGS. ALL DEMOLISHED EQUIPMENT AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. AT THE END OF EACH WORKING DAY, DEBRIS, BOXES, WASTE, ETC., SHALL BE REMOVED FROM THE BUILDINGS AND PROPERLY DISPOSED OF. CONTRACTOR EQUIPMENT, MATERIALS, ETC., MUST BE PROPERLY STORED, STACKED AND LOCATED AS INSTRUCTED BY THE OWNER.
  4. THE CONTRACTOR SHALL DO ALL CUTTING, PATCHING, FINISHING, REPAIRING, PAINTING, ETC., NECESSARY FOR WORK TO BE INSTALLED IN EXISTING BUILDINGS. ALL FINISHES SHALL BE LEFT TO EQUAL FINISH AND CONDITION PRIOR TO CUTTING. NO CUTTING OF STRUCTURAL MEMBERS WILL BE ALLOWED. REMOVE/REPLACE EXISTING LAY-IN CEILING AS REQUIRED TO ACCOMPLISH WORK. ALL CUTTING OF WALLS, FLOORS, ROOFS, ETC., SHALL BE REPAIRED AND/OR REPLACED TO EQUAL FINISH PRIOR TO CUTTING.
  5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING BUILDINGS, GROUNDS, WALKWAYS, PAVING, ETC., CAUSED BY THE WORK, THE CONTRACTOR AND/OR HIS PERSONNEL, AND/OR HIS EQUIPMENT IN THE ACCOMPLISHMENT OF THIS WORK. SUCH DAMAGES SHALL BE REPAIRED AND/OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, TO FINISH EQUAL TO THAT FINISH PRIOR TO DAMAGE. THE OWNER'S REPRESENTATIVE SHALL BE THE JUDGE AS TO EQUAL FINISHES, ETC.
  6. COORDINATE POWER OUTAGES WITH THE OWNER. REQUEST OUTAGES 24 HOURS IN ADVANCE.
- I. SUBMITTALS: SUBMITTALS SHALL INCLUDE PRODUCT DATA FOR ALL MATERIALS SPECIFIED AND COMPONENTS INDICATED INCLUDING EACH LIGHTING FIXTURE, BALLAST, LAMPS, RACEWAY FITTINGS, WIRING DEVICES AND ACCESSORIES. INCLUDE DIMENSIONS AND MANUFACTURER'S TECHNICAL DATA ON FEATURES, PERFORMANCE, ELECTRICAL CHARACTERISTICS, RATINGS AND FINISHES.
- J. GUARANTEE: THE CONTRACTOR SHALL GUARANTEE THE MATERIALS AND WORKMANSHIP COVERED BY THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE GUARANTEE PERIOD.

#### 16111 RACEWAYS AND FITTINGS

- A. RACEWAYS SHALL BE RIGID GALVANIZED STEEL, ELECTRICAL METALLIC TUBING AND/OR SCHEDULE 40 PVC WITH APPROPRIATE FITTINGS. EMT FITTINGS SHALL BE HEX NUT STEEL COMPRESSION TYPE WITH INSULATED THROATS.
- B. FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT: UL APPROVED AND LABELED WITH HEX NUT STEEL FITTINGS.
- C. JUNCTION AND OUTLET BOXES FOR INTERIOR USE IN DRY LOCATIONS SHALL BE ZINC COATED OR CADMIUM PLATED SHEET STEEL, 4" SQUARE BY 2-1/8" DEEP, EXCEPT SINGLE WIRING DEVICE BOXES MAY BE SINGLE GANG.
- D. RACEWAYS, BOXES, FITTINGS, ETC., SHALL BE SOLIDLY FASTENED TO MASONRY WITH LEAD ANCHORS AND MACHINE SCREWS OR TOGGLE BOLTS. RACEWAYS SHALL BE FASTENED TO STRUCTURAL STEEL WITH BEAM CLAMPS, CONDUIT HANGERS, TRAPEZE HANGERS, OR OTHER APPROVED DEVICES.
- E. RACEWAY AND BOX INSTALLATION:
  1. INDOORS (CONCEALED): USE EMT, MC OR RIGID STEEL.
  2. BOXES AND ENCLOSURES
    - a. INDOORS: NEMA 250, TYPE 1, EXCEPT IN DAMP AND WET LOCATIONS: NEMA 250, TYPE 4, STAINLESS STEEL OR NON-METALLIC
    - b. OUTDOORS: NEMA 250, TYPE 3R.

#### 16123 CONDUCTORS

- A. CONDUCTORS SHALL BE COPPER, MINIMUM SIZE #12. SIZES #10 AND #12 SHALL BE SOLID, #8 AND LARGER, STRANDED. INSULATION SHALL BE TYPE THIN OR THIN FOR BRANCH CIRCUITS.
- B. CONDUCTORS SHALL BE COLOR CODED THROUGHOUT, SIZES #10 AND #12 SHALL BE FACTORY CODED, SIZES #8 AND LARGER MAY BE COLOR TAPED ON THE JOB. COLOR CODING SHALL BE: PHASE A - BLACK, PHASE B - RED, PHASE C - BLUE, NEUTRAL - WHITE, GROUND - GREEN FOR 120/208 VOLT SYSTEMS. COLOR CODING SHALL BE: PHASE A - BROWN, PHASE B - ORANGE, PHASE C - YELLOW, NEUTRAL - GREY, GROUND - GREEN FOR 277/480 VOLT SYSTEMS.
- C. CONDUCTORS SHALL MEET THE LATEST REQUIREMENTS OF NEMA AND IPCEA AND SHALL BE UL APPROVED.

#### 16130 BOXES

- A. JUNCTION AND OUTLET BOXES FOR INTERIOR USE IN DRY LOCATIONS SHALL BE ZINC COATED OR CADMIUM PLATED SHEET STEEL, 4" SQUARE AND 2-1/8" DEEP, UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS.

#### 16170 GROUNDING

- A. ALL GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250 OF THE NEC. IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL BE MET:
  1. GROUNDING CONDUCTORS SHALL BE INSTALLED AS TO PERMIT THE SHORTEST AND MOST DIRECT PATH FROM EQUIPMENT TO GROUND. ALL GROUND CONNECTIONS TO GROUND CONDUCTORS SHALL BE ACCESSIBLE.
  2. EQUIPMENT GROUND CONTINUITY SHALL BE MAINTAINED THROUGH FLEXIBLE METAL CONDUIT.
  3. ALL WIRING DEVICES EQUIPPED WITH GROUNDING CONNECTION SHALL BE SOLIDLY GROUND TO GROUND SYSTEM WITH GROUNDING CONDUCTORS.
  4. THE FRAME OF ALL LIGHTING FIXTURES SHALL BE SECURELY GROUNDED TO THE EQUIPMENT GROUND SYSTEM WITH GROUNDING CONDUCTORS.
  5. ALL CIRCUITS SHALL CONTAIN AN INSULATED, GREEN, COPPER GROUNDING CONDUCTOR, SIZED IN ACCORDANCE WITH TABLE 250-122 OF THE NEC. GROUNDING CONDUCTORS SHALL BE CONNECTED TO EQUIPMENT GROUND BUS IN PANELBOARD AND SECURELY ATTACHED AND GROUNDED TO THE DEVICE OR ENCLOSURE AT THE OTHER END.
  6. ALL EQUIPMENT ENCLOSURES, AND NON-CURRENT METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS, ETC., SHALL BE EFFECTIVELY AND ADEQUATELY BONDED TO GROUND.

#### 16190 SUPPORTING DEVICES

- A. PROVIDE MATERIALS, SIZES, AND TYPES OF ANCHORS, FASTENERS AND SUPPORTS TO CARRY THE LOADS OF EQUIPMENT AND CONDUIT. CONSIDER WEIGHT OF WIRE IN CONDUIT WHEN SELECTING PRODUCTS. PROVIDE ADEQUATE CORROSION RESISTANCE.
- B. ANCHORS AND FASTENERS:
  1. CONCRETE STRUCTURAL ELEMENTS: USE EXPANSION ANCHORS.
  2. STEEL STRUCTURAL ELEMENTS: USE BEAM CLAMPS.
  3. CONCRETE SURFACES: USE SELF-DRILLING ANCHORS AND EXPANSION ANCHORS.
  4. HOLLOW MASONRY, PLASTER, AND GYPSUM BOARD PARTITIONS: USE TOGGLE BOLTS.
  5. SOLID MASONRY WALLS: USE EXPANSION ANCHORS.
  6. SHEET METAL: USE SHEET METAL SCREWS OR BOLTS.
  7. WOOD ELEMENTS: USE WOOD SCREWS.
- C. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- D. PROVIDE ANCHORS, FASTENERS, AND SUPPORTS IN ACCORDANCE WITH NECA "STANDARD OF INSTALLATION".
- E. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, AND CONDUIT.
- F. DO NOT USE POWDER-ACTUATED ANCHORS.

#### 16510 LIGHTING FIXTURES

- A. LIGHTING FIXTURE TYPES SHALL BE FURNISHED AS REQUIRED BY THE LIGHTING FIXTURE SCHEDULE AS INDICATED ON THE DRAWINGS. CATALOG NUMBERS ARE PROVIDED AS A GUIDE TO THE DESIGN AND QUALITY OF FIXTURE DESIRED. EQUIVALENT DESIGNS AND EQUAL QUALITY FIXTURES OF OTHER MANUFACTURERS LISTED WILL BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL VERIFY FROM THE CONTRACT DRAWINGS THE TYPE CEILING OR WALLS THE FIXTURE IS TO BE USED WITH AND SHALL PROVIDE COMPATIBLE MOUNTING ATTACHMENTS AND TRIM. PROVIDE ALL ACCESSORIES OR ADDITIONAL MATERIALS REQUIRED TO MAINTAIN THE CEILING FIRE RATING AS REQUIRED BY REGULATORY AUTHORITIES.
- B. ALL FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS. LAMPS SHALL BE INDICATED ON THE DRAWINGS, UNLESS OTHERWISE INDICATED. FLUORESCENT LAMPS SHALL BE AS NOTED ON THE DRAWINGS AND/OR SPECIFIED.
- C. LENSES SHALL BE CLEAR VIRGIN ACRYLIC MATERIAL WITH UNIFORM 3/16" SQUARE BASED FEMALE CONE PRISMS ALIGNED 45° TO THE LENGTH AND WIDTH OF THE LENS PANEL. MINIMUM PRISM DEPTH SHALL BE 0.080" WITH A NOMINAL PANEL THICKNESS OF 0.156" AND A MINIMUM OVERALL PANEL THICKNESS OF 0.150" TO 0.160" INCHES.
- D. BALLASTS SHALL PROVIDE SAFE AND RELIABLE OPERATION OF THE SPECIFIED LAMPS, BE ELECTRONIC TYPE WITH MINIMUM BALLAST FACTOR OF 0.88, OPERATE AT A FREQUENCY OF NOT LESS THAN 20,000 HZ, SOUND RATED "A", WARRANTED FOR A PERIOD OF AT LEAST FIVE YEARS, AVERAGE INPUT WATTAGE OF 60 WATTS OR LESS WHEN OPERATING TWO F32T8 LAMPS WHEN TESTED IN ACCORDANCE WITH ANSI C82.2 METHODS, MINIMUM PF NOT LESS THAN 0.90, INPUT CURRENT TOTAL HARMONIC DISTORTION LESS THAN 20 PERCENT, INPUT CURRENT THIRD HARMONICS SHALL NOT EXCEED ANSI RECOMMENDATIONS (32% TOTAL HARMONIC DISTORTION, 27.5% OF THE THIRD TRIPLETS), POTTED, MANUFACTURED IN THE U.S.A. AND PROVIDE TRUE PARALLEL LAMP, INSTANT START OPERATION, CASE TEMPERATURE NOT TO EXCEED 25 DEGREES C RISE OVER 40 DEGREES C AMBIENT. MULTI-LEVEL SWITCHED FIXTURES SHALL HAVE MULTIPLE BALLASTS OR SWITCHABLE BALLASTS.

### Selective Demolition Notes:

1. ALL DEMOLITION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AS DESCRIBED HEREIN AND AS SHOWN ON THE CONTRACT DRAWINGS. IDENTIFY ACTIVE UTILITIES, AND AT THE APPROPRIATE TIME, DISCONNECT AND CAP OFF SUCH UTILITIES AND PROVIDE EXPERIENCED PERSONNEL ON SITE. REMOVE MATERIALS NOTED FOR SALVAGE AND REUSE. IDENTIFY AND MARK WIRING AND DEVICES TO REMAIN.
2. THE ELECTRICAL CONTRACTOR SHALL REVIEW THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND CARRY OUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL WIRING DEVICES, BOXES, FITTINGS, EXPOSED ABANDONED RACEWAYS, HANGERS, ETC MADE OBSOLETE BY THESE ALTERATIONS AND AS SHOWN ON THE ELECTRICAL DRAWINGS. ALL ITEMS TO BE REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THE CONTRACTOR SHALL REMOVE ANY ELECTRICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS DIRECTED BY THE OWNER OR ENGINEER. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID AS ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DEPICTED ON THE DRAWINGS AND SOME UNUSUAL CONDITIONS MAY EXIST.
3. VERIFY FIELD MEASUREMENTS AND CIRCUITING ARRANGEMENTS ARE AS SHOWN ON DRAWINGS.
4. CONTINUOUS SERVICE IS REQUIRED ON ALL CIRCUITS AFFECTED BY THESE CHANGES, EXCEPT WHERE THE OWNER WILL PERMIT AN OUTAGE FOR A SPECIFIC TIME. OBTAIN OWNER'S CONSENT BEFORE REMOVING ANY CIRCUIT FROM CONTINUOUS SERVICE.
5. PROTECT ALL EXISTING TELEPHONE, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM, SECURITY, ACCESS CONTROL AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK.
6. WHERE ELECTRICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL BE PROTECTED FROM DAMAGE AND REMAIN OR BE SUITABLY RELOCATED UTILIZING MATCHING SIZE AND TYPE MATERIALS AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE ENGINEER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.
7. PROTECT EXISTING CIRCUITS TO REMAIN AND EXTEND AS REQUIRED UTILIZING MATCHING CONDUCTORS AND CONDUIT SIZE AND TYPE.
8. SECURE ALL CIRCUITS, RACEWAYS, CABLE AND CONDUCTORS THAT, AS A RESULT FROM THIS CONSTRUCTION, ARE ABANDONED OR UNUSED. REMOVE UNUSED EXPOSED CONDUIT AND WIRING BACK TO POINT OF CONCEALMENT INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILINGS. REMOVE UNUSED WIRING IN CONCEALED CONDUITS BACK TO SOURCE OR NEAREST POINT OF USAGE. BLANK ABANDONED KNOCKOUTS IN REMAINING BOXES. INSTALL BLANK PLATES FOR ALL UNUSED OUTLETS THAT WILL REMAIN AS A RESULT OF THIS CONSTRUCTION. ALL SUCH WORK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
9. TRACE OUT EXISTING WIRING THAT IS TO BE RELOCATED OR REMOVED AND PERFORM THE RELOCATION OR REMOVAL WORK AS REQUIRED FOR A COMPLETE OPERATING AND SAFE SYSTEM.
10. RECONNECT EXISTING CIRCUITS SEPARATED AS A RESULT OF THIS CONSTRUCTION.
11. EXTEND EXISTING SWITCH LEGS TO NEW SWITCH LOCATIONS AS SHOWN AND/OR REQUIRED.
12. PROTECT EXISTING CIRCUITS FEEDING LIGHTING FIXTURES FOR EXTENSION TO NEW AND RELOCATED LIGHTING FIXTURES.
13. DO NOT DISTURB EXISTING DATA, TELEPHONE, SECURITY/INTRUSION AND ENERGY MANAGEMENT SYSTEMS, DEVICES OR CABLES.
14. THESE DRAWINGS ARE COMPILED BY THE ENGINEER FROM LIMITED FIELD VERIFICATION OF EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL CIRCUITS, WIRING, CONDUIT, DIMENSIONS, POINTS OF ACCESS AND ALL FIELD CONDITIONS AFFECTING HIS WORK. BEGINNING OF DEMOLITION MEANS THE CONTRACTOR ACCEPTS EXISTING CONDITIONS.
15. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL LAMPS CONTAINING MERCURY IN A LINED LANDFILL IN ACCORDANCE WITH NC GEN STATUTE 308.10M.
16. SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
17. DISPOSE OF ALL REMOVED FIXTURES, LAMPS, AND MATERIALS PROPERLY OFF SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS. FEES ASSOCIATED WITH DISPOSAL SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID.

### General Notes:

1. ALL ELECTRICAL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 70, THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, FOR THE CONDITIONS OF INSTALLATION. ALL MATERIAL, EQUIPMENT AND DEVICES SHALL BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. EQUIPMENT SHALL BE SUITABLE FOR ITS APPLICATION.
3. UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
4. THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.
5. ALL ELECTRICAL EQUIPMENT SHALL, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT SHALL NOT BE STORED OUT OF DOORS, BUT SHALL BE STORED IN DRY PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
6. CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS. UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND GENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIAGRAMMATICALLY ONLY. THE CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.
7. MAINTAIN CEILING FIRE RATINGS WITH ALL NECESSARY LIGHTING FIXTURE TRIM, ACCESSORIES, OPTIONS AND/OR FIELD FABRICATED SHROUDS COMPLYING WITH ALL APPLICABLE CODES.
8. RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKE/TIGHT.
9. ALL RACEWAYS SHALL BE CONCEALED EXCEPT THOSE SHOWN TO BE EXPOSED ON DRAWINGS. IF APPLICABLE, MATCH EXISTING RACEWAY INSTALLATION METHODS AND ROUTINGS AT OR NEAR EXISTING FACILITIES.
10. CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX. BRIDGES ALONE ARE NOT ADEQUATE UNLESS SPECIFICALLY APPROVED.
11. CONDUCTOR SIZING IS BASED ON 75 DEGREE C COPPER NEC RATINGS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY, PRIOR TO INSTALLATION OF CONDUCTORS OR CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT IS RATED FOR USE WITH 75 DEGREE C WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH LESS THAN 75 DEGREE C CONDUCTORS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR EVALUATION/CORRECTION.
12. WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUITS SHALL CONSIST OF #12 OR #10 AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS IN 1/2" MINIMUM RACEWAY.
13. KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH CONDUCTOR MATERIAL. INSTALL CONDUCTORS AT EACH OUTLET WITH AT LEAST 6 INCHES OF SLACK. CONNECT OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY THE MANUFACTURER.
14. CONNECT EXISTING BATTERY PACK TYPE EMERGENCY AND EXISTING EXIT LIGHTING FIXTURES TO THE UNSWITCHED LIGHTING CIRCUIT SERVING THE SPACE LIGHTED BY THE EMERGENCY AND EXIT FIXTURES.
15. COORDINATE LIGHTING FIXTURE LOCATIONS WITH THE REFLECTED CEILING PLAN. IF CONFLICTS ARE NOTED, REQUEST CLARIFICATION FROM THE ENGINEER BEFORE PROCEEDING.
16. WHERE THE DRAWINGS INDICATE A LIGHTING FIXTURE IS TO BE PROVIDED WITH SPECIAL FEATURES/SWITCHING (DIMMING, EMERGENCY BATTERY BALLAST, MULTI-LEVEL, ETC), THE CONTRACTOR SHALL PROVIDE THESE FIXTURES WITH THE APPROPRIATE BALLASTING TO ACCOMMODATE THE SPECIAL FEATURE. THE CONTRACTOR SHALL PROVIDE THE FIXTURES AS INDICATED IN THE LIGHTING FIXTURE SCHEDULE WITH MODIFICATIONS AS REQUIRED BY DRAWING NOTES.
17. INSTALLATION INFORMATION PACKED WITH LIGHTING FIXTURES, DEVICES AND EQUIPMENT SHALL BE RETAINED FOR INCLUSION IN THE OPERATIONS AND MAINTENANCE MANUALS.
18. PROTECT ALL EXISTING POWER, COMMUNICATIONS, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ENGINEER IF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
19. MAINTAIN CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN OR PORTIONS THEREOF AFFECTED BY THIS WORK.
20. DESIGN AND ADDITION OF NEW CIRCUITING IS BASED ON THE ENGINEER'S BEST INFORMATION REGARDING EXISTING CONDITIONS AND CURRENT DRAWINGS.
21. INsofar AS POSSIBLE, MATCH EXISTING EXPOSED DEVICES IN FINISHED AREAS IN TYPE, COLOR AND FINISH.
22. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING ELECTRICAL SYSTEMS AND THE EXISTING BUILDING. THE SUBMISSION OF THE PROPOSAL BY THE CONTRACTOR SHALL BE CONSIDERED EVIDENCE THAT HE OR HIS REPRESENTATIVE HAS VISITED THE SITE AND BUILDINGS AND NOTED THE LOCATION AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED AND THAT HE TAKES FULL RESPONSIBILITY OF ALL FACTORS GOVERNING HIS WORK. NO EXTRAS WILL BE CONSIDERED BECAUSE OF ADDITIONAL WORK NECESSITATED BY EXISTING JOB CONDITIONS THAT ARE NOT INDICATED ON THE DRAWINGS.
23. ALL UNUSED OUTLET BOXES SHALL BE REMOVED OR, WITH SPECIFIC APPROVAL OF THE ENGINEER, SHALL BE BLANKED WITH STAINLESS STEEL PLATES. ALL OPENINGS IN EXISTING WALLS AND CEILINGS MADE BY THIS CONTRACTOR SHALL BE REPAIRED TO AN EQUAL ROUGH FINISH AS ADJACENT SURFACES.
24. PROVIDE ALL ELECTRICAL RELOCATION WORK ASSOCIATED WITH THE RELOCATING OF EQUIPMENT FOR THE EXISTING FACILITIES, INCLUDING DISCONNECTING ALL EXISTING WIRING AND CONDUITS AND PROVIDING NEW WIRING AND CONDUITS TO THE RELOCATED EQUIPMENT.
25. THE EXISTING FACILITIES WILL REMAIN OCCUPIED BY THE STAFF THROUGHOUT THE PROJECT. AS SUCH, WORK WILL BE DONE IN PHASES AND WILL REQUIRE SPECIAL EFFORT BY THIS CONTRACTOR TO ALLOW THE WORK TO PROCEED IN A TIMELY MANNER. ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE OWNER SO AS TO MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR. SEE ENGINEERS DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONCERNING PHASING AND SEQUENCE OF WORK.
26. SEE "SELECTIVE DEMOLITION NOTES" FOR ADDITIONAL REQUIREMENTS.
27. SAFETY: COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.
28. KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH CONDUCTOR MATERIAL.
29. CONNECT FIXTURES TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY THE MANUFACTURER.
30. PROTECT ALL POWER, COMMUNICATIONS, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
31. TRACE OUT EXISTING WIRING THAT IS TO BE RELOCATED, OR REMOVED AND PERFORM THE RELOCATION OR REMOVAL WORK AS REQUIRED FOR A COMPLETE OPERATING AND SAFE SYSTEM.
32. NEW LIGHTING FIXTURE SUPPORT SHALL BE PROVIDED WITH THE SAME TYPE OF WIRE AS USED TO SUPPORT THE LAY-IN CEILING SYSTEM. ATTACH ONE END OF THE WIRE TO ONE CORNER OF THE FIXTURE AND THE OTHER END TO THE BUILDING'S STRUCTURAL SYSTEM. THE LAY-IN OR FLANGE FIXTURE SHALL THEN BE SCREWED TO THE MAIN RUNNERS OF THE LAY-IN CEILING TRACK OR GWB CEILING SYSTEM AT ALL FOUR (4) CORNERS USING SHEET METAL SCREWS. ALL RECESSED FIXTURES SHALL BE FURNISHED WITH ALL NECESSARY MOUNTING ACCESSORIES. SUPPORT WIRES SHALL BE IDENTIFIED AS REQUIRED BY NEC.

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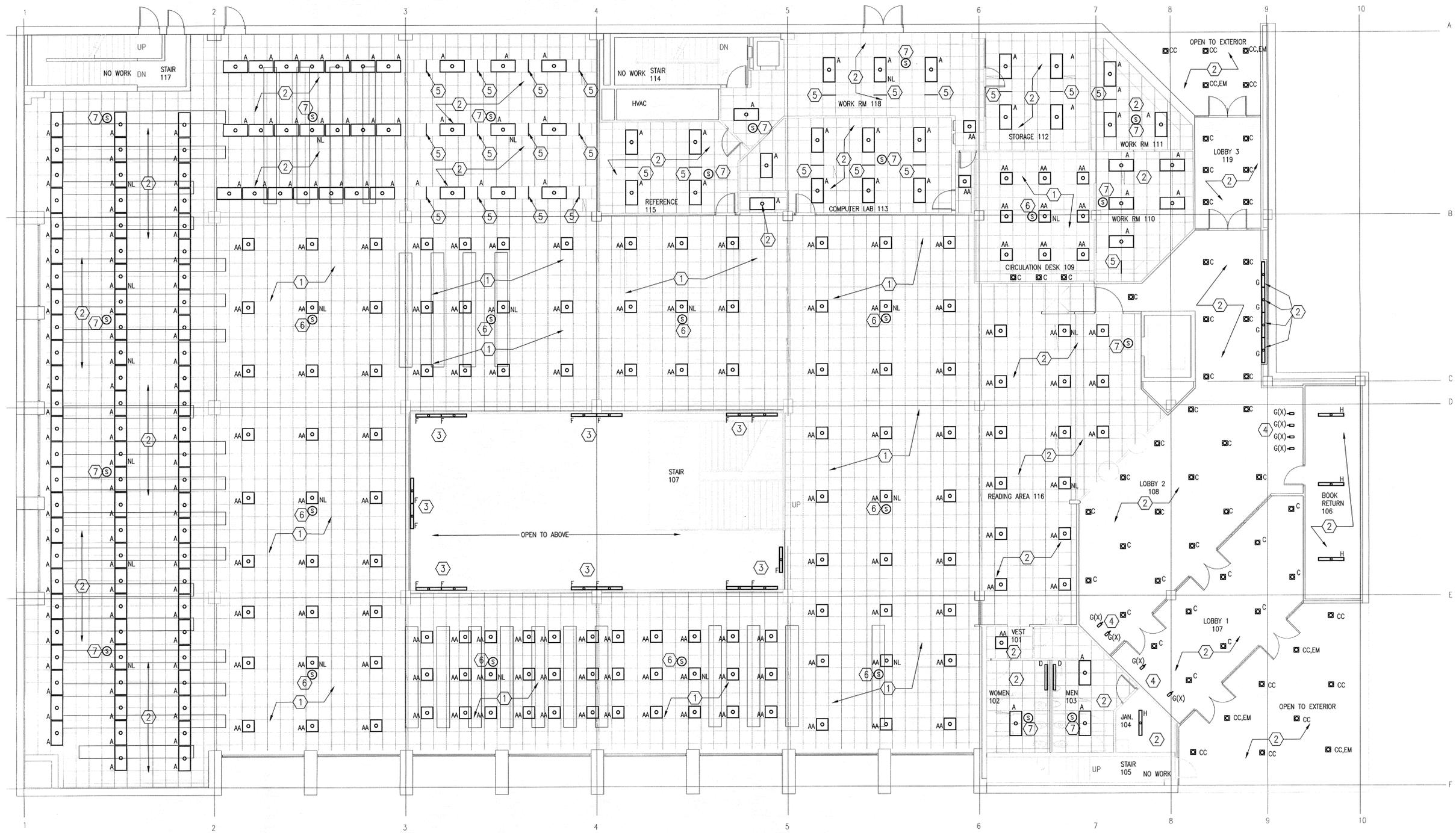


New Hanover County Library - Main Branch  
Lighting Replacement  
201 Chestnut Street  
Wilmington, NC

Job No.: 10219  
Drawn: PEM  
Designed: JPF  
Checked: JPF

Drawing No:  
**E0.2**

Revision:  
0



EXISTING BATTERY PACK EMERGENCY LIGHTS AND EXIT SIGNS WERE ADDED IN 2001 PROJECT AND SHALL REMAIN. MAINTAIN CONNECTION TO EXISTING EMERGENCY LIGHTING FIXTURES.

ALL FIXTURES SHOWN SHALL BE CONNECTED TO EXISTING CONDUCTORS LEFT AFTER DEMOLITION OF EXISTING LIGHTS.

EXISTING LIGHTING CONTROLS SHALL REMAIN.

EXISTING SMOKE DETECTORS TO REMAIN.

PROVIDE NEW 2X2 CEILING TILES AND T-BAR GRID WHERE EXISTING 2X4 FIXTURES ARE NOT REPLACED.



**1 - First Floor Lighting Plan**  
1/8" = 1'-0"

- Key Notes:**
- INSTALL NEW LIGHTING FIXTURES IN EXISTING GRID AND CONNECT TO EXISTING CIRCUITS AND SWITCHES REMAINING FROM DEMOLITION OF STRIP LIGHTS, EXTEND WIRING TO NEW FIXTURE LOCATION.
  - REPLACE EXISTING LIGHTING FIXTURE ONE FOR ONE WITH NEW LIGHTING FIXTURE SHOWN IN EXISTING CEILING/GRID. CONNECT TO EXISTING CIRCUITS AND SWITCH LEGS REMAINING FROM DEMOLITION.
  - INSTALL NEW WALL MOUNTED LIGHTING FIXTURES ON EXISTING WALL SPACE. ACCESS FROM ADJACENT SUSPENDED GRID AREA. CONNECT NEW FIXTURES TO EXISTING CIRCUITS OF ADJACENT STRIP LIGHTS ABOVE ADJACENT EGGRATE CEILING GRID REMAINING AFTER DEMOLITION.
  - EXISTING FIXTURE G(X) TO REMAIN. REPLACE EXISTING INCANDESCENT LAMPS WITH EQUIVALENT CFL'S.
  - PROVIDE ADDITION OF CROSS BAR TO EXISTING CEILING GRID IN THIS AREA DUE TO EXISTING CONDITION. ALSO PROVIDE (2) TWO NEW 2X2 CEILING TILES, ONE ON EITHER SIDE OF NEW CROSS BAR.
  - ALTERNATE BID 1B: REMOVE EXISTING SMOKE DETECTORS FROM GYPSUM BOARD CEILING ABOVE EXISTING "EGGRATE" CEILING TILE AND RE-INSTALL IN NEW CEILING TILE DIRECTLY BELOW EXISTING LOCATION. EXTEND WITH MATCHING CONDUCTORS. COORDINATE CABLING AND TERMINATIONS WITH NHC'S FIRE ALARM VENDOR, ASG SECURITY.
  - ALTERNATE BID 1B: REMOVE AND TEMPORARILY SUPPORT SMOKE DETECTORS AND RE-INSTALL IN NEW CEILING TILE IN SAME LOCATION. NO EXTENSION OF CABLING REQUIRED PER THIS KEY NOTE.
  - ALTERNATE BID 1B: REMOVE AND DISPOSE OF ALL EXISTING CEILING TILES AND REPLACE WITH NHC STANDARD CEILING TILE: USG Radar Panel 2110. EXISTING CEILING GRID SHALL REMAIN.

- Phasing Notes**
- ALL WORK WILL BE IN AN EXISTING OPERATIONAL LIBRARY FACILITY.
  - THE SUCCESSFUL CONTRACTOR SHALL WORK WITH NEW HANOVER COUNTY STAFF TO DEVELOP A SCHEDULE AND PHASING PLAN MUTUALLY ACCEPTABLE TO ALL PARTIES.
  - ALL WORK CANNOT BE ACCOMPLISHED AT THE SAME TIME. WORK IS REQUIRED TO BE COMPLETED IN PHASES.
  - AT THE END OF EACH WORKING SHIFT THE AREA OF WORK SHALL BE CLEAR OF DEBRIS AND EQUIPMENT.



Drawing: E:\NHC\20219-NHC Public Library Lighting\10219 E101.rvt Date: 9/20/2013 3:26 PM

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REVISIONS

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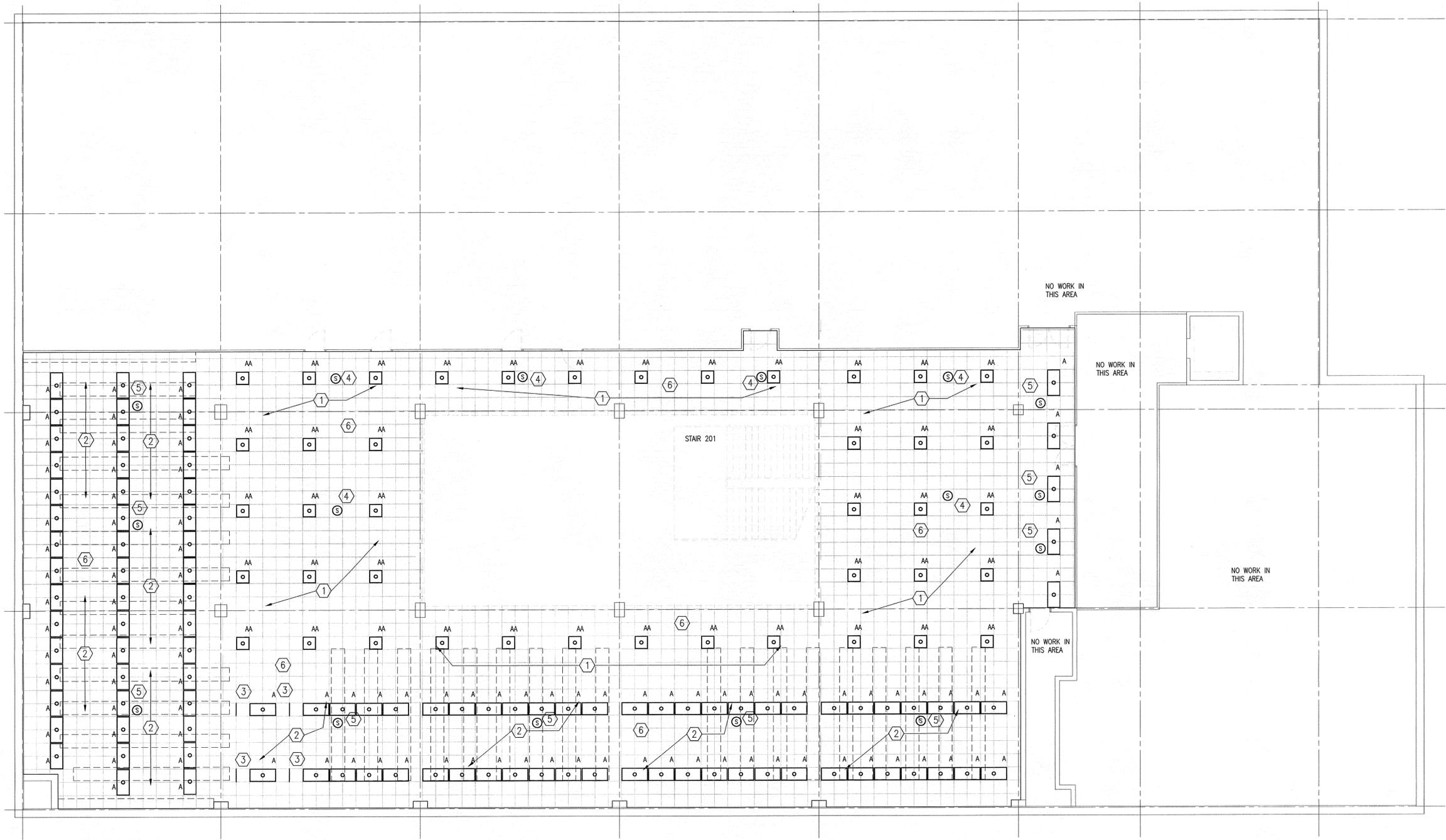


**New Hanover County Library - Main Branch**  
Lighting Replacement  
201 Chestnut Street  
Wilmington, NC  
**Electrical**  
First Floor Lighting Plan

Job No.: 10219  
Drawn: PEM  
Designed: JPF  
Checked: JPF

Drawing No:  
**E1.1**

Revision:  
**0**



ALL FIXTURES SHOWN SHALL BE CONNECTED TO EXISTING CONDUCTORS LEFT AFTER DEMOLITION OF EXISTING LIGHTS.

EXISTING BATTERY PACK EMERGENCY LIGHTS AND EXIT SIGNS WERE ADDED IN 2001 PROJECT AND SHALL REMAIN. MAINTAIN CONNECTION TO EXISTING LIGHTING CONNECTIONS FIXTURES.



**1 - Second Floor Lighting Plan**  
1/8"=1'-0"

**Keyed Notes:(this sheet)**

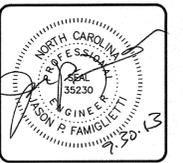
1. INSTALL NEW LIGHTING FIXTURES IN EXISTING GRID AND CONNECT TO EXISTING CIRCUITS AND SWITCHES REMAINING FROM DEMOLITION OF STRIP LIGHTS, EXTEND EXISTING WIRING TO NEW FIXTURE LOCATION.
2. REPLACE EXISTING LIGHTING FIXTURE ONE FOR ONE WITH NEW LIGHTING FIXTURE SHOWN IN EXISTING CEILING/GRID. CONNECT TO EXISTING CIRCUITS AND SWITCH LEGS REMAINING FROM DEMOLITION.
3. PROVIDE ADDITION OF CROSS BAR TO EXISTING CEILING GRID IN THIS AREA DUE TO EXISTING CONDITION. ALSO PROVIDE (2) TWO NEW 2X2 CEILING TILES, ONE ON EITHER SIDE OF NEW CROSS BAR.
4. ALTERNATE BID 2B: REMOVE EXISTING SMOKE DETECTORS FROM GYPSUM BOARD CEILING ABOVE EXISTING "EGGCRATE" CEILING TILE AND RE-INSTALL IN NEW CEILING TILE DIRECTLY BELOW EXISTING LOCATION. EXTEND WITH MATCHING CONDUCTORS. COORDINATE CABLING AND TERMINATIONS WITH NHC'S FIRE ALARM VENDOR, ASG SECURITY.
5. ALTERNATE BID 2B: REMOVE AND TEMPORARILY SUPPORT SMOKE DETECTORS AND RE-INSTALL IN NEW CEILING TILE IN SAME LOCATION. NO EXTENSION OF CABLING REQUIRED PER THIS KEY NOTE.
6. ALTERNATE BID 2B: REMOVE AND DISPOSE OF ALL EXISTING CEILING TILES AND REPLACE WITH NHC STANDARD CEILING TILE, USG XXXX. EXISTING CEILING GRID SHALL REMAIN.



Drawing: P:\NHC\10219-NHC Public Library Lighting\10219 E102.dwg Plot Date: 09/20/2013 3:28 PM

Revision No.	0	Description	ISSUED FOR CONSTRUCTION
Revision No.		REVISIONS	

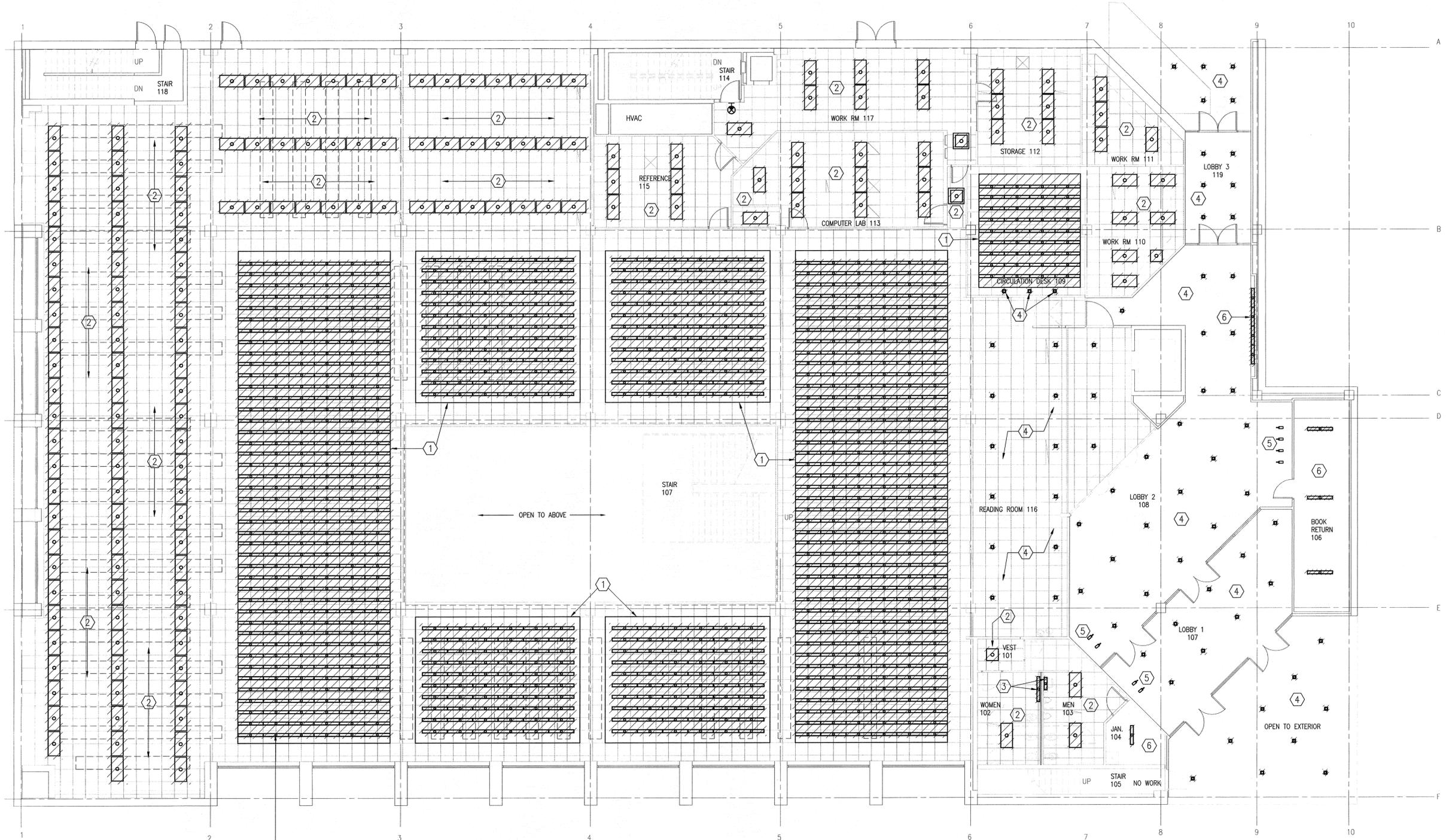
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New Hanover County Library - Main Branch  
Lighting Replacement  
201 Chestnut Street  
Wilmington, NC  
Electrical  
Second Floor Lighting Plan

Job No.:	10219
Drawn:	PEM
Designed:	JPF
Checked:	JPF

Drawing No.:	<b>E1.2</b>
Revision:	0



REMOVE LIGHTS IN HATCHED AREAS SHOWN, TYP.  
CEILING GRID TO REMAIN FOR REUSE.  
SEE ADDITIONAL NOTES THIS SHEET



**1 - First Floor Lighting Demolition Plan**  
1/8" = 1'-0"

**Keyed Notes:(this sheet)**

- 1 REMOVE EXISTING FLUORESCENT STRIP LIGHTING FROM ABOVE EXISTING SUSPENDED CEILING. EXISTING CIRCUITING SHALL BE PROTECTED AND REMAIN FOR EXTENSION TO NEW LAY-IN LIGHT FIXTURES INSTALLED IN EXISTING SUSPENDED CEILING GRID. FIXTURES SHALL BE SUPPORTED FROM STRUCTURE ABOVE. DO NOT RELY ON GRID TO SUPPORT THE WEIGHT OF LIGHT FIXTURES.
- 2 REMOVE EXISTING 2X4 LAY-IN LIGHT FIXTURES. CIRCUITING SHALL BE PROTECTED AND REMAIN FOR RECONNECTION TO NEW LIGHTING FIXTURES IN SAME LOCATIONS IN EXISTING SUSPENDED CEILING GRID.
- 3 REMOVE EXISTING WALL MOUNTED LIGHT FIXTURES, PATCH WALL AS NEEDED. CIRCUITING SHALL BE PROTECTED AND REMAIN FOR RECONNECTION TO NEW LIGHTING FIXTURES IN SAME LOCATIONS.
- 4 REMOVE RECESSED DOWN LIGHTS WHERE SHOWN, PATCH CEILING AS NEEDED. CIRCUITING SHALL BE PROTECTED AND REMAIN FOR RECONNECTION TO NEW LIGHTING FIXTURES IN SAME LOCATIONS.
- 5 EXISTING MONO SPOT LIGHTING TO REMAIN.
- 6 REMOVE EXISTING FLUORESCENT STRIP LIGHTING FIXTURES. CIRCUITING TO REMAIN FOR RECONNECTION TO NEW LIGHTING FIXTURES IN SAME LOCATIONS.

**Phasing Notes**

- ALL WORK WILL BE IN AN EXISTING OPERATIONAL LIBRARY FACILITY.
- THE SUCCESSFUL CONTRACTOR SHALL WORK WITH NEW HANOVER COUNTY STAFF TO DEVELOP A SCHEDULE AND PHASING PLAN MUTUALLY ACCEPTABLE TO ALL PARTIES.
- ALL WORK CANNOT BE ACCOMPLISHED AT THE SAME TIME. WORK IS REQUIRED TO BE COMPLETED IN PHASES.
- AT THE END OF EACH WORKING SHIFT THE AREA OF WORK SHALL BE CLEAR OF DEBRIS AND EQUIPMENT.



Drawing: P:\NHC\10219-NHC Public Library\Lighting\10219 ED1.1.dwg Plot Time: 10/22/2013 3:26 PM

**New Hanover County Library - Main Branch  
Lighting Replacement**  
201 Chestnut Street  
Wilmington, NC

**Electrical  
First Floor Demolition Plan**

Job No.: 10219  
Drawn: PEM  
Designed: JPF  
Checked: JPF

Drawing No:

**ED1.1**

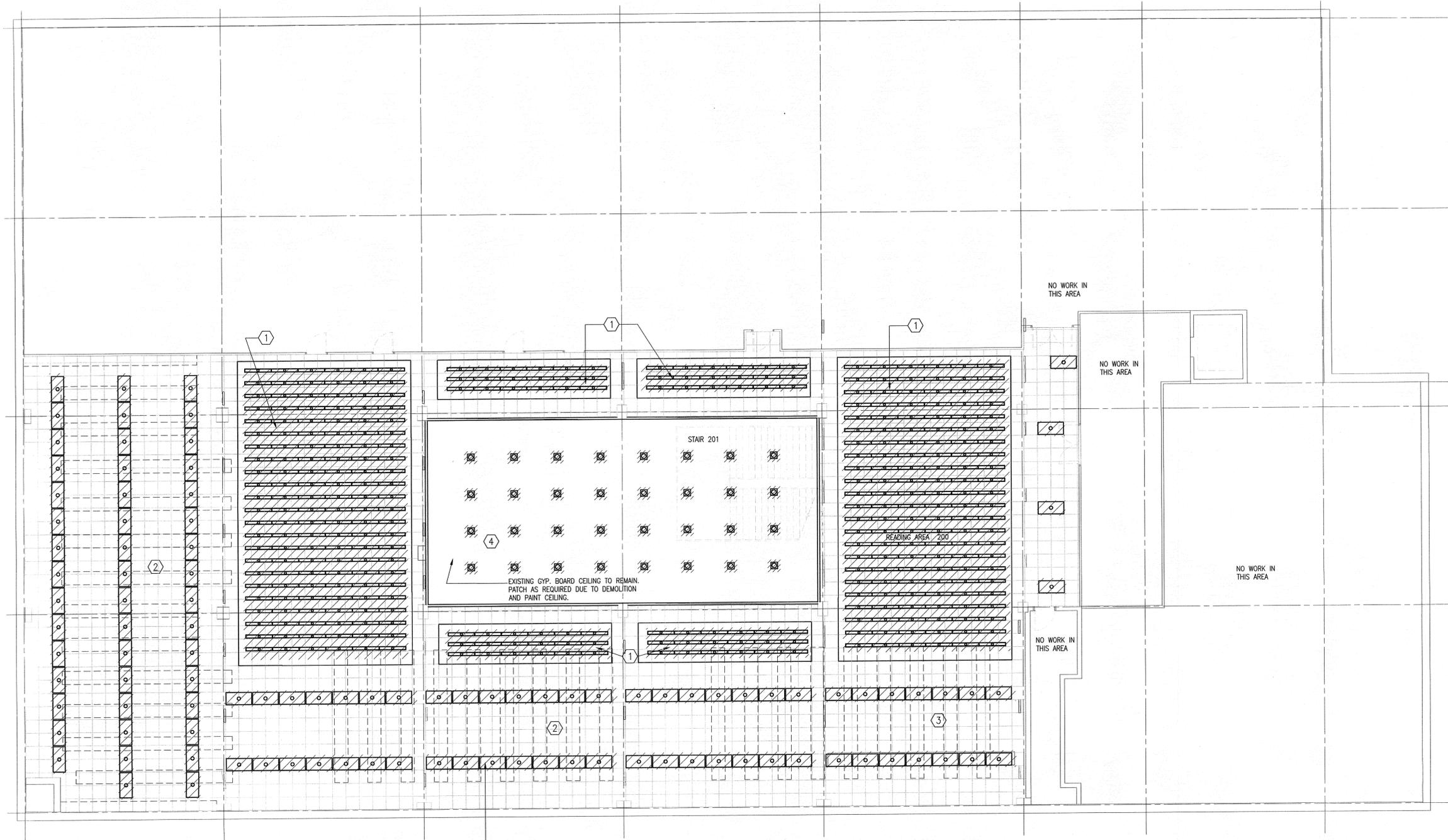
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Revision No.	Description
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Drawing: P:\N\N\10219-REC Public Library Lighting\10219 ED1.02X.dwg Plot Time: 8/25/2013 3:28 PM



REMOVE LIGHTS IN HATCHED AREAS SHOWN, TYP.  
CEILING GRID TO REMAIN FOR REUSE.  
SEE ADDITIONAL NOTES THIS SHEET



**1 - Second Floor Demolition Plan**  
1/8" = 1'-0"

- Keyed Notes:(this sheet)**
- 1 REMOVE EXISTING FLUORESCENT STRIP LIGHTING FROM ABOVE EXISTING SUSPENDED CEILING. EXISTING CIRCUITING SHALL BE PROTECTED AND REMAIN FOR EXTENSION TO NEW 2X4 LAY-IN LIGHT FIXTURES INSTALLED IN EXISTING SUSPENDED CEILING GRID. FIXTURES SHALL BE SUPPORTED FROM STRUCTURE ABOVE. DO NOT RELY ON GRID TO SUPPORT THE WEIGHT OF LIGHT FIXTURES.
  - 2 REMOVE EXISTING 2X4 LAY-IN LIGHT FIXTURES. CIRCUITING SHALL BE PROTECTED AND REMAIN FOR RECONNECTION TO NEW LIGHTING FIXTURES IN EXISTING SUSPENDED CEILING GRID. SEE SH. E1.02 FOR NEW LAYOUT.
  - 3 EXISTING SMOKE DETECTORS TO REMAIN. LOWER AS NEEDED IN AREAS CHANGING FROM OPEN METAL TILES TO ACOUSTIC CEILING TILE.
  - 4 REMOVE RECESSED DOWN LIGHTS WHERE SHOWN, PATCH CEILING AS NEEDED. CIRCUITING WILL NOT BE REUSED.



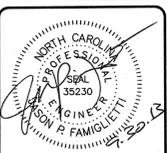
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Date	08/20/13
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**New Hanover County Library - Main Branch**  
Lighting Replacement  
201 Chestnut Street  
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**Electrical**  
Second Floor Demolition Plan

Job No.:	10219
Drawn:	JPF
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Checked:	JPF

Drawing No:  
**ED1.2**

Revision:  
**0**