



INVITATION TO BID 15ITB98380K-JAJ

Central Library Roof Replacement

For

Public Works/General Services Department

BID ISSUANCE DATE: September 9, 2015

BID DUE DATE AND TIME: October 9, 2015 11:00 A.M.

PRE-BID CONFERENCE DATE: September 24, 2015

PURCHASING CONTACT James A. Jones

E-MAIL: james.jones@fultoncountyga.gov

**LOCATION: FULTON COUNTY DEPARTMENT OF PURCHASING
130 PEACHTREE STREET, S.W., SUITE 1168
ATLANTA, GA 30303**

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INVITATION TO BID
15ITB98380K-JAJ CENTRAL LIBRARY ROOF REPLACEMENT

Sealed Bids for furnishing all materials, labor, tools, equipment and appurtenances necessary for [Insert brief project scope] will be received by the Fulton County Department of Purchasing and Contract Compliance at 130 Peachtree Street, S.W. Suite 1168 Atlanta, GA 30303, **no later than 11:00 a.m.**, local time, on **October 9, 2015**.

SCOPE OF WORK

The work consists of replacement of the roof at the Central Library. The detailed scope of work and technical specifications are outlined in Section 4 Scope of Work, Technical Specifications of this bid document.

METHOD OF SOURCE SELECTION

This procurement is being conducted and the specific method of source selection in accordance with all applicable provisions of the Georgia Local Public Works Construction Law, O.C.G.A. §36-91-1 through 36-91-95 when a public works construction project cost exceeds \$100,000.

PERMITS

The Contractor shall be responsible for securing and paying for all permits, fees taps, meters, inspections and bonds required to complete the Work.

The Contractor assumes responsibility for securing all land disturbance permits, demolition permits and building permits; providing meters and paying all utility tie-in fees, restoring of roads and right of ways; maintaining siltation control; and securing all final releases for regulating bodies. Minimum permits required for the Project:

1. Demolition Permit: from the City of Atlanta Bureau of Buildings
2. Building Permit: from the City of Atlanta Bureau of Buildings

The Contractor is responsible for payment of fees associated with the permits and inspections per the following schedule. ANY FEE FOR REQUIRED PERMITS OR INSPECTION NOT SPECIFICALLY NOTED BELOW AS WAIVED IS THE RESPONSIBILITY OF THE CONTRACTOR.

- a. Land Disturbance Permitting – Fee Waived
- b. Fulton County Building Permit – Fee Waived

RIGHTS OF WAY/EASEMENTS

The Contractor shall be responsible for all inspections and ensuring compliance with all Federal, State and County laws and codes. The Contractor shall be solely responsible for obtaining all permits for sidewalk or street closings from the City of Atlanta

BID DOCUMENTS

This document and supporting documents can be downloaded at the Fulton County Website, <http://www.fultoncountyga.gov> under "Bid Opportunities".

The Bid Documents and Drawings for this project may be examined and copies obtained at a cost of [Insert cost of Drawings] at the following location(s):

Action Blueprint
2705 Monroe Drive
Atlanta, Georgia 30324
(404) 885-1433
Web site: action @actiondis.com

A viewing copy (**FOR VIEWING PURPOSES ONLY**) of the Drawings will be available in the Department of Purchasing Plan Room located at 130 Peachtree Street, S.W. Suite 1168, Atlanta, Georgia 30303.

PURCHASING CONTACT

Information regarding the bid or bid requirements, either procedural or technical, may be obtained by submitting questions in writing to:

Fulton County Government
Department of Purchasing & Contract Compliance
Attn: James A. Jones
Fulton County Public Safety Building
130 Peachtree Street, S.W. Suite 1168
Atlanta, GA 30303
Email: james.jones@fultoncountyga.gov
Fax: 404-224-5287
Reference Bid #:

PRE-BID CONFERENCE

Date: September 24, 2015
Time: 11:00 A.M.
Location: Central Library

A Pre-Bid Conference will be held at the Central Library, 6th Floor Board Room, located at One Margaret Mitchell Square Atlanta, Georgia 30303. A mandatory walk-through will be held immediately following the pre-bid conference. A second walk-through will be held September 29, 2015 at 11:00 A.M at the Central Library. All bidders are to meet at the 6th floor Board Room. **Due to extreme roof elevations and the lack of a parapet wall, bidders participating in the walk-through are cautioned to wear suitable attire, including a hard hat and safety shoes suitable for walking, climbing and potentially crawling.** Inquiries regarding the solicitation either technical or otherwise may be submitted in writing prior to the pre-bid conference and will be addressed at the pre-bid conference.

Any additional questions asked at the Pre-Bid Conference must be submitted in written form at the Pre-Bid conference and will be responded to in the form of an addendum with the County's official responses.

The Pre-Bid Conference will be conducted for the purpose of explaining the County's bid process, the specifications/technical documents, and to provide non-binding verbal responses to questions concerning these bid specifications and to discuss issues from the Bidders perspective. However, no verbal response provided at the Pre-Bid Conference binds the County. Only those responses to written questions that are responded to by the County in written communications will be official.

Fulton County does not discriminate on the basis of disability in the admission or access to its programs or activities. Any requests for reasonable accommodations required by individuals to fully participate in any open meeting, program or activity of Fulton County Government should be directed to Rholanda Stanberry, Contract Compliance Administrator at (404) 612-6304 or email: rhoolanda.stanberry@fultoncountyga.gov.

BONDING REQUIREMENTS

Each Bid must be accompanied by a Bid Bond, prepared on the Bid Bond provided in this Bid Document or a Surety Company's Standard Bid Bond, duly executed by the Bidder as principal and having as surety, a surety company licensed to do business in the State of Georgia by the Georgia Insurance Commissioner and listed in the latest issue of U.S. Treasury Circular 570, in the amount of five percent of the Bid.

The successful Bidder for this Contract will be required to furnish a satisfactory Performance and Payment Bond each in the amount of 100 percent of the Bid, and proof of insurance in accordance with the requirements set forth in Section 5 of this Bid Document.

END OF SECTION

OWNER - CONTRACTOR AGREEMENT

[INSERT PROJECT # AND TITLE]

Contractor: _____ Project No. _____

Address: _____ Telephone: _____

Contact: _____ Facsimile: _____

THIS AGREEMENT is effective as of the _____ day of _____, 20____, by and between Fulton County, a political subdivision of the State of Georgia (hereinafter called the "County"), and the above named CONTRACTOR in accordance with all provisions of this Construction Agreement ("Contract"), which consists of the following: Owner-Contractor Agreement, Owner's invitation for bid, instructions to bidders, bid form, performance bond, payment bond, acknowledgments, general conditions, special conditions, scope of work and specifications, plans, drawings, exhibits, addenda, Purchasing forms, Office of Contract Compliance Forms, Risk Management insurance provisions forms and written change orders.

The specific Exhibits of this Contract are as follows:

- Exhibit A: General Conditions
- Exhibit B: Special Conditions (if applicable)
- Exhibit C: Addenda
- Exhibit D: Bid Form
- Exhibit E: Bonds (Bid, Payment & Performance)
- Exhibit F: Scope of Work and Technical Specifications
- Exhibit G: Exhibits
- Exhibit H: Purchasing Forms
- Exhibit I: Office of Contract Compliance Forms
- Exhibit J: Risk Management Insurance Provisions Forms

WITNESSETH: That the said Contractor has agreed, and by these present does agree with the said County, for and in consideration of a Contract Price of **[INSERT CONTRACT AMOUNT IN WORDS]**, (**\$(INSERT CONTRACT AMOUNT IN NUMBERS)**) and other good and valuable consideration, and under the penalty expressed on Bonds hereto attached, to furnish all equipment, tools, materials, skill, and labor of every description necessary to carry out and complete in good, firm, and workmanlike manner, the Work specified, in strict conformity with the Drawings and the Specifications hereinafter set forth, which Drawings and Specifications together with the bid submittals made by the Contractor, General Conditions, Special Provisions, Detailed Specifications, Exhibits, and this Construction Agreement, shall all form essential parts of this Contract. The Work covered by this Contract includes all Work indicated on Plans and Specifications and listed in the Bid entitled:

Project Number: **[INSERT PROJECT #]**

[INSERT PROJECT NAME]

The Contractor, providing services as an Independent Contractor, shall commence the Work with adequate force and equipment within 10 days from receipt of Notice to Proceed ("NTP") from the County, and shall complete the work within **[INSERT CONTRACT DURATION]** calendar days from the Notice to Proceed or the date work begins, whichever comes first. The Contractor shall remain responsible for performing, in accordance with the terms of the Contract, all work

assigned prior to the expiration of the said calendar days allowed for completion of the work even if the work is not completed until after the expiration of such days. The Contractor shall agree that in the performance of this Contract he will comply with all lawful agreements, if any, which the contractor has made with any association, union or other entity, with respect to wages, salaries and working conditions, so as to cause inconvenience, picketing or work stoppage.

[Insert if applicable For each calendar day that any work remains uncompleted after the time allowed for completion of the work, the Contractor shall pay the County the sum of \$ 500.00 not as a penalty but as liquidated damages, which liquidated damages the County may deduct from any money due the contractor. At the County's convenience and not to it prejudice the County may provide written notice of the commencement of the assessment of liquidated damages].

As full compensation for the faithful performance of this Contract, the County shall pay the Contractor in accordance with the General Conditions and the prices stipulated in the Bid, hereto attached.

It is further mutually agreed between the parties hereto that if, at any time after the execution of this Agreement and the Surety Bonds hereto attached for its faithful performance, the County shall deem the surety or sureties upon such bonds to be unsatisfactory, or, if, for any reason, such bonds cease to be adequate to cover the performance of the Work, the Contractor shall, at his expense, within five days after receipt of notice from the County so to do, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the County. In such event no further payment to the Contractor shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the Work shall be furnished in manner and form satisfactory to the County.

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder, whether caused by the Contractor or the Contractor's agents, Servants, or employees, or by any of the Contractor's subcontractors or suppliers, and the Contractor shall indemnify and hold harmless the County, the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents, or any of their subcontractors from and against any and all loss and/or expense which they or any of them may suffer or pay as a result of claims or suits due to, because of, or arising out of any and all such injuries, deaths and/or damage, irrespective of County or Construction Manager negligence (except that no party shall be indemnified for their own sole negligence). The Contractor, if requested, shall assume and defend at the Contractor's own expense, any suit, action or other legal proceedings arising there from, and the Contractor hereby agrees to satisfy, pay, and cause to be discharged of record any judgment which may be rendered against the County and the Construction Manager arising there from.

In the event of any such loss, expense, damage, or injury, or if any claim or demand for damages as heretofore set forth is made against the County or the Construction Manager, the County may withhold from any payment due or thereafter to become due to the Contractor under the terms of this Contract, an amount sufficient in its judgment to protect and indemnify it and the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents from any and all claims, expense, loss, damages, or injury; and the County, in its discretion, may require the Contractor to furnish a surety bond satisfactory to the County providing for such protection and indemnity, which bond shall be furnished by the Contractor within five (5) days after written demand has been made therefore. The expense of said Bond shall be borne by the Contractor. **[See General Conditions for similar provision]**

This Contract constitutes the full agreement between the parties, and the Contractor shall not sublet, assign, transfer, pledge, convey, sell or otherwise dispose of the whole or any part of this Contract or his right, title, or interest therein to any person, firm or corporation without the previous consent of the County in writing. Subject to applicable provisions of law, this Contract shall be in full force and effect as a Contract, from the date on which a fully executed and approved counterpart hereof is delivered to the Contractor and shall remain and continue in full force and effect until after the expiration of any guarantee period and the Contractor and his sureties are finally released by the County.

This agreement was approved by the Fulton County Board of Commissioner on [Insert approval date and item number].

[SIGNATURES NEXT PAGE]

IN WITNESS THEREOF, the Parties hereto have caused this Contract to be executed by their duly authorized representatives as attested and witnessed and their corporate seals to be hereunto affixed as of the day and year date first above written.

OWNER:

CONTRACTOR:

FULTON COUNTY, GEORGIA

[Insert Contractor COMPANY NAME]

John H. Eaves, Commission Chair
Board of Commissioners

[Insert Name & Title of person authorized to sign contract]

ATTEST:

ATTEST:

Mark Massey
Clerk to the Commission (Seal)

Secretary/
Assistant Secretary

(Affix Corporate Seal)

APPROVED AS TO FORM:

Office of the County Attorney

APPROVED AS TO CONTENT:

[Insert Department Head Name]
[Insert Department Head Title]

INSTRUCTIONS TO BIDDERS

1. CONTRACT DOCUMENTS

The Contract Documents include the Contract Agreement, Contractor's Bid (including all documentation accompanying the Bid and any post-Bid documentation required by the County prior to the Notice of Award), Bonds, all Special Conditions, General Conditions, Supplementary Conditions, Specifications, Drawings and addenda, together with written amendments, change orders, field orders and the Construction Manager's written interpretations and clarifications issued in accordance with the General Conditions on or after the date of the Contract Agreement.

Shop drawing submittals reviewed in accordance with the General Conditions, geotechnical investigations and soils report and drawings of physical conditions in or relating to existing surface structures at or contiguous to the site are not Contract Documents.

The Contract Documents shall define and describe the complete work to which they relate.

2. BID PREPARATION

Bidders shall **SUBMIT ONE (1) ORIGINAL, SIGNED AND DATED, AND TWO (2) COPIES** on the forms provided in the Bid Document.

All bids must be made on the bid forms contained herein and shall be subject to all requirements of the Agreement Documents. All bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the bid by the Bidder.

Lump sum, unit price and extensions of unit prices must be entered in the appropriate spaces provided on the Bid Schedule/Bid Form. Unit prices shall include an appropriate allocation of overhead and other indirect costs so that the summation of unit price extensions and lump sum items represents the total bid amount. All blank spaces must be typed or hand written in blue ink on the "Original". All dollar amounts must be BOTH in writing and figures and represent prices for the published scope of work without exceptions.

The County may, in its sole discretion, reject any bid determined as irregular, a conditional bid or any bid on which there is an alteration of, or departure from the Bid Schedule attached.

Erasures or other changes in the bids must be explained or noted over the signature of the Bidder. All corrections to any entry must be lined out and initialed by the Bidder. Please do not use correction tapes or fluid. Failure to do so shall render the Bidder as non-responsive and cause rejection of the bid.

Failure to execute the Bid Schedule/Bid Form documents may result in Bidder being deemed non-responsive and cause rejection of the bid.

3. RECEIPT AND OPENING OF BIDS

Sealed bids will be received by the Fulton County Department of Purchasing & Contract Compliance at Fulton County Public Safety Building, 130 Peachtree Street, S.W., Suite 1168 Atlanta, Georgia 30303. All submitted bids shall be time and date stamped according to the clock at the front desk of the Fulton County Department of Purchasing & Contract Compliance. The original signed Bid with three (3) copies shall be submitted in a sealed envelope, addressed to the Department of Purchasing and Contract Compliance and labeled **15ITB998380K-JAJ Central Library Roof Replacement**.

REQUIRED SUBMITTALS: The bidder **must complete and execute** the following:

1. Bid Form
2. Acknowledgement of each Addendum
3. Bid Bond
4. Purchasing Forms (See Submittal Check List at end of this Section), fully executed
5. Contract Compliance Forms (See Submittal Check List at end of this Section), fully executed
6. Risk Management Insurance Provisions Form

Any bids received after the stated time and date will not be considered. It shall be the sole responsibility of the bidder to have his/her bid delivered to the Fulton County Department of Purchasing and Contract Compliance for receipt on or before the stated time and date. If a bid is sent by U.S. Mail, the bidder shall be responsible for its timely delivery to the Purchasing Department. Bids delayed by mail will not be considered, shall not be opened, and arrangements shall be made for their return at the bidder's request and expense.

Bid shall be publicly opened, with only the names and total bid price of the bidders disclosed at the opening.

4. ADDENDA AND INTERPRETATIONS

No interpretations of the meaning of the Drawings, Specifications or other pre-bid documents will be made to any Bidder orally.

Bidders requiring clarification or interpretation of the Contract Documents shall make a request in writing, either by mail, hand delivery, e-mail or fax, to the Purchasing Agent at the address below. To be given consideration, requests must be received no later than 2:00 PM, October 2, 2015. The County will not respond to any requests, oral or written, received after this date. Telephone inquiries will not be accepted.

Department of Purchasing
Attn: James A. Jones, Assistant Purchasing Agent

Fulton County Public Safety Building
130 Peachtree Street, S.W., 1168
Atlanta, GA 30303
Fax: (404) 404-224-5287
james.jones@fultoncountyga.gov
Bid # 15ITB98380K-JAJ

Only communications from firms that are in writing and signed will be recognized by the County as duly authorized expressions on behalf of proposers/bidders. Any and all such interpretations and any supplemental instructions will be in the form of written Addenda to the Specifications which, if any addend are issued to this Invitation to Bid.

Failure of Bidders to receive or acknowledge any Addendum shall not relieve them of any obligation under the Bid. All Addenda shall become part of the Contract Documents.

5. SITE EXAMINATION

There will be a site visit for this project. It will be held immediately following the pre-bid conference on **Thursday, September 24, 2015**. Bidders **are** required to attend. A second walk-through will be held on Tuesday, September 29^h from 11:00a.m. to 12:00p.m. Prospective bidders **are not** required to attend the second walkthrough.

6. BIDDER'S MODIFICATION AND WITHDRAWAL OF BIDS

A Bidder may modify or withdraw its bid by written request, provided that the request is received by the County prior to the bid due date and time at the address to which bids are to be submitted. Provided further, that in case of an electronic request (i.e. facsimile, e-mail, etc.) a written confirmation thereof over the authorized signature of the Bidder must be received by the County at the address to which original Bids are to be submitted within three (3) calendar days after issue of the electronic message. Following withdrawal of its bid, the Bidder may submit a new bid, providing delivery is affected prior to the established bid opening date and time. **No bid may be withdrawn after bid due date for sixty (60) calendar days.**

7. BID AND CONTRACT SECURITY

A Bid Bond for an amount equal to five percent (5%) of the bid amount must accompany each Proposal. The bid bond shall be submitted in a separate, sealed envelope marked "Bid Bond".

Bids must be accompanied by a bid bond or certified check in an amount of five percent (5%) of the TOTAL AMOUNT of the base bid. The bid bond or certified check shall apply **ONLY TO THIS BID**. The bid name and contract number must appear on the security instrument. The bond must remain in full

force and effect until the Bidder executes the final Contract. Bids not satisfying the bonding requirements of this project will be declared non-responsive.

Any bid bond, performance bond, payment bond, or security deposit required for public works construction contract shall be approved and filed with purchasing agent. At the option of the County, if the surety named in the bond is other than a surety company authorized by law to do business in this state pursuant to a current certificate of authority to transact surety business by the Commissioner of Insurance, such bond shall not be approved and filed unless such surety is on the United States Department of Treasury's list of approved bond sureties.

A Purchasing Agent shall approve as to form and as to the solvency of the surety any bid bond, performance bond, or payment bond required by this. In the case of a bid bond, such approval shall be obtained prior to acceptance of the bid or proposal. In the case of payment bonds and performance bonds, such approval shall be obtained prior to the execution of the contract.

Whenever, in the judgment of the County:

- (1) Any surety on a bid, performance, or payment bond has become insolvent;
- (2) Any corporation surety is no longer certified or approved by the Commissioner of Insurance to do business in the state; or
- (3) For any cause there are no longer proper or sufficient sureties on any or all the bonds

The County may require the contractor to strengthen any or all of the bonds or to furnish a new or additional bond or bonds within ten days. Thereupon, if so ordered by the County, all work on the contract shall cease unless such new or additional bond or bonds are furnished. If such bond or bonds are not furnished within such time, the County may terminate the contract and complete the same as the agent of and at the expense of the contractor and his or her sureties.

As a condition of responsiveness the bidder must contain a Bid Bond for an amount equal to 5% of the bid amount. The Bid Bond shall be included in a separate envelope marked on the outside "Bid Bond". Checks or letters of credit of any type will not be accepted. A certified cashier's check will be acceptable. Provide a completed and fully executed Bid Bond. When the bidder's package is opened, a purchasing agent will verify the presence of the Bid Bond and remove it from the Proposal Package.

If the bidder withdraws its bid from the competition after the selection of its bid for a reason not authorized by Georgia law, the County will proceed on the Bid Bond, along with any other available remedies.

The Surety of the Bid Bond shall be from a surety company authorized to do business in the State of Georgia, shall be listed in the Department of Treasury Circular 570, and shall have an underwriting limitation in excess of 100% of the bid amount. The Bonds and Surety shall be subject to approval by the County Attorney.

Attorneys-in-fact for bidders who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

8. SURETY BONDS

The submission of surety bonds subsequent to the Bid submission shall be:

- a. Any surety bond submitted in accordance with the Bid or Agreement requirements must be issued by a corporate surety company satisfactory to the Commission and authorized to act as such in the State of Georgia;
- b. Such bonds shall conform to the forms provided with the Bid Documents and be completed in accordance with the instructions thereon; and
- c. In accordance with Georgia law, and upon award of the Agreement, separate performance and payment bonds shall be required of the successful Bidder, each in an amount not less than the total amount payable under the Agreement. The performance bond shall remain in effect for one (1) year after final acceptance of the Work or the guaranty period under the Agreement, whichever is the larger.

The payment bond shall remain in effect for the period required under Georgia law for the payment bonds on public construction agreements. Reference is made to the bond forms and the Agreement Documents for additional particulars of the terms required in the bonds. In the case of any inconsistency between the Bond Forms and Georgia law, the law shall control. Alterations, extension of the time allowed for performance, extra and additional Work, and other changes authorized under the Agreement may be made without notice to or consent of the surety or sureties.

9. INSURANCE REQUIREMENTS

The Contractor shall procure and maintain during the life of this Agreement, Workmen's Compensation, Public Liability, Property Damage, Automobile Liability insurance and any other insurance necessary to satisfy the requirements of the Agreement Documents. At the time of award, a copy of the successful Bidder's Certificate of Insurance must be provided through the County's online insurance compliance system.

The County has implemented an online insurance compliance system designed to make the experience of submitting and retrieval of insurance information quick and easy. This system is designed to be used by insurance brokers and agents on behalf of their insurance clients for submittal of Certificates of Insurance ("COI") directly to the Fulton County Department of Purchasing. Instructions will be provided to the successful bidder.

10. RIGHT TO REJECT BIDS

The County reserves the right to reject any or all bids and to waive informalities. No bids will be received after the time set for opening bids. Any unauthorized conditions, limitations or provisions attached to the Bid, except as provided herein, will render it informal and may cause its rejection. Unbalanced bids will be subject to rejection. Any bidder may withdraw his/her bid, either personally or by telegraphic or written request, at any time prior to the scheduled closing time for receipt of bids. Telegraphic or written requests for withdrawal must be in the possession of the County prior to the closing time for receipt of bids.

11. APPLICABLE LAWS

All applicable laws and regulations of the State of Georgia and ordinances and regulations of Fulton County shall apply. Protestors shall seek resolution of their complaints in the manner provided in the Fulton County Purchasing Code §102-488 et. seq., which is incorporated by reference herein.

12. EXAMINATION OF CONTRACT DOCUMENTS

Prospective bidders shall examine the contract documents and before submitting a bid, shall make a written request to the County for an interpretation or correction of any ambiguity, in consistency or error therein which could be discovered by a bidder. At the bid opening each bidder shall be presumed to have read and be familiar with the contract documents.

13. BID EVALUATION

- a. Each Bid timely received and in the County's hands at the time set forth for the Bid opening shall constitute an offer to perform the Agreement on the terms and conditions thereof, in strict accordance with the Agreement documents, and all other requirements, all for the Bid total. For good cause and valuable consideration, the sufficiency of which is acknowledged by submittal of a Bid, each Bidder promises and agrees that its Bid shall be irrevocable for a period of **sixty calendar days** after the Bid opening and will not be withdrawn or modified during that time. The County may accept any Bid by giving the Bidder Written Notice of acceptance during that time. If necessary, the period of time specified may be extended by written agreement between the County and the Bidder or Bidders concerned.
- b. After the Bids have been opened and before any award is made, the County will evaluate the Bid process, the Bid total, the supplements to the Bid form, Bidder's experience, proposed Subcontractors and equipment manufacturers and other data relating to Bidders' responsibility and qualifications to perform the Agreement satisfactorily.
- c. All extension of the unit prices shown and the subsequent addition of extended amounts may be verified by the County. In the event of a discrepancy between the unit price bid and the extension, the unit price will be deemed intended by the Bidder and the extension shall be adjusted. In

the event of a discrepancy between the sum of the extended amounts and the bid total, the sum of the extended amounts shall govern.

- d. Bidder may be required to submit, in writing, the addresses of any proposed Subcontractors or Equipment manufacturers listed on the Bid, and to submit other material information relative to proposed Subcontractors or Equipment manufacturers. The County reserves the right to disapprove any proposed Subcontractor or Equipment manufacturers whose technical or financial ability or resources or whose experience are deemed inadequate.
- e. The County reserves the right to reject any Bid the prices of which appear to be unbalanced, and to reject any or all Bids, or parts thereof, if it determines, in its sole discretion, that such rejection is in the best interest of the Commission. Where only a single responsible and responsive Bid is received, the County may in its sole discretion, elect to conduct a price or cost analysis of the Bid. Such Bidder shall cooperate with such analysis and provide such supplemental information as may be required. The determination whether to enter into an Agreement with such sole Bidder shall be solely within the County's discretion and not dependent upon performance of a price or cost analysis.
- f. Bids will be evaluated on the basis of determining the lowest Bid total of a Bidder, not including alternates, whose Bid is responsive to the Invitation to Bid and who is determined to be technically, financially and otherwise responsible to perform the Agreement satisfactorily, and to meet all other requirements of the Bidding Documents relating thereto. Any Bid may be rejected if it is determined by the County to be non-responsive, provided, however, that the Commission reserves the right to waive any irregularities or technicalities which it determines, within its sole discretion, to be minor in nature and in the interest of the public. Furthermore, any Bid may be rejected if it is determined by the County, in its sole discretion, that the Bidder is not capable of performing the Agreement satisfactorily based upon review of its experience and technical and financial capabilities, or the failure of such bidder to provide information requested relating to such determination. Additionally, the County reserves the right to disqualify Bids, before and after the bid opening, upon evidence of collusion with intent to defraud or other illegal practices upon the part of any Bidder(s).
- g. The County intends to award the Agreement at the earliest practicable date to the lowest responsive, responsible Bidder(s), provided that the Bid is within the funds available for the project. In addition, the Commission reserves the right to reject all Bids if it determines, in its sole discretion, that the public interest will be best served by doing so.
- h. A Pre-award Conference may be conducted with the apparent low Bidder(s) to review general requirements of the Bidding Documents.

14. **AWARD CRITERIA**

Award will be made after evaluating the prices, responsiveness and responsibility of each Bidder.

A. **Responsiveness:** The determination of responsiveness will be determined by the following:

- a. The completeness of all material, documents and/or information required by the County;
- b. Whether the bidder has submitted a complete Bid form without irregularities, excisions, special conditions, or alternative bids for any item unless specifically requested in the Bid form.

B. **Responsibility:** The determination of the bidder's responsibility will be determined by the following

- a. The ability, capacity and skill of the Bidder to perform and/or provide the Work required;
- b. The County reserves the right to reject any bid if the evidence submitted by, or investigation of, the bidder fails to satisfy the County that he/she is properly qualified to carry out the obligations of the Contract;
- c. The character, integrity, reputation, judgment, experience and efficiency of the Bidder;
- d. The quality of performance of work on previous contracts or work; Maintains a permanent place of business individually or in conjunction with the prime contractor.
- e. Has the appropriate and adequate technical experience necessary to perform the Work;
- f. Has adequate personnel and equipment to do the Work expeditiously;
- g. Has suitable financial means to meet obligations incidental to the work.

15. **DISQUALIFICATION OF BIDDERS**

Any of the following may be considered as sufficient for disqualification of a Bidder and the rejection of the Bid:

- a. Submission of more than one Bid for the same work by an individual, firm, partnership or Corporation under the same or different name(s);
- b. Evidence of collusion among Bidders;
- c. Previous participation in collusive bidding on Work for the County;
- d. Submission of an unbalanced Bid, in which the prices quoted for same items are out of proportion to the prices for other items;
- e. Lack of competency of Bidder. The Agreement will be awarded only to a Bidder(s) rated as capable of performing the Work.

16. BASIS OF AWARD

The Contract, if awarded, will be awarded to the lowest responsive and responsible bidder. No bid may be withdrawn for a period of sixty (60) days after the date of bid opening except as permitted by O.C.G.A., §36-91-41 et seq., as amended. Each Bid must be accompanied by a Bid Bond in accordance with the Bid Bond Requirements provided in the Contract Documents, on a Surety Company's Standard Bid Bond Form acceptable to the County in an amount no less than 5% of the amount bid. The successful bidder will be required to furnish a Performance Bond and Payment Bond, **on or before** the issuance of Notice to Proceed, each in the amount of 100% of the Contract Amount. All other required Contract Documents must be fully completed and executed by the Contractor and his/her Surety, and submitted to the Owner **on or before** the issuance of the Notice to Proceed.

17. PROFESSIONAL LICENSES (APPLICABLE)

The State of Georgia requires that the following professions are required by state law to be licensed:

1. Electricians
2. Plumbers
3. Conditioned Air Contractors
4. Low voltage Contractors

Bidders and any sub-contractors performing any of the above described work must provide a copy of their license for the work they will perform on this project. Bidders must complete Form C3: Georgia Professional License Certification in Section 6, Purchasing Forms Failure to provide the required license may deem your bid non-responsive.

18. WAGE CLAUSE

Pursuant to 102-413, Each Contractor shall agree that in the performance of the Contract he will comply with all lawful agreements, if any, which the Contractor had made with any association, union, or other entity, with respect to wages, salaries, and working conditions, so as not to cause inconvenience, picketing, or work stoppage.

19. NOTICE OF AWARD OF CONTRACT

As soon as possible, and within sixty (60) days after receipt of bids, the County shall notify the successful Bidder of the Award of Contract.

The award shall be made by the Board of Commissioners of Fulton County to the lowest responsive, responsible bidder(s) as soon as possible after receipt of bids, taking into consideration price and the responsiveness to the requirements set forth in the Invitation for Bid. In such case, no claim shall be made by the selected Contractor(s) for loss of profit if the contract is not awarded or awarded for less work than is indicated and for less than the amount of his bid. The total of the awarded contract shall not exceed the available funds allocated for this project.

Should the County require additional time to award the contract, the time may be extended by mutual agreement between the County and the successful bidder. If an Award of Contract has not been made within sixty (60) days from the bid date or within the extension mutually agreed upon, the Bidder may withdraw the Bid without further liability on the part of either party.

Any award made by the Board of Commissioners as a result of this bid will begin from the date of the notice to proceed. The Bidder agrees hereby to commence work under this Contract, with adequate personnel and equipment, on a date to be specified in a written order from the user department. The contract shall become effective on the Contract Date and shall continue in effect until the end of the term of the contract or until the project has been closed-out unless earlier terminated pursuant to the termination provisions of the contract.

20. EXECUTION OF CONTRACT DOCUMENTS

Upon notification of Award of Contract, the County shall furnish the Contractor the conformed copies of Contract Documents for execution by the Contractor and Contractor's surety.

Within ten (10) days after receipt the Contractor shall return all the documents properly executed by the Contractor and the Contractor's surety. Attached to each document shall be an original power-of-attorney for the person executing the bonds for the surety and certificates of insurance for the required insurance coverage.

After receipt of the documents executed by the Contractor and his surety with the power-of-attorney and certificates of insurance, the County shall complete the execution of the documents. Distribution of the completed documents will be made upon completion.

Should the contractor and/or surety fail to execute the documents within the time specified, the County shall have the right to proceed on the Bid Bond accompanying the bid.

If the County fails to execute the documents within the time limit specified, the Contractor shall have the right to withdraw the Contractor's bid without penalty.

Should an extension of any of the time limits stated above be required, this shall be done only by mutual agreement between both parties.

Any agreement or contract resulting from the acceptance of a bid shall be on a County approved document form. The County reserves the right to reject any agreement that does not conform to the Invitation for Bid and any County requirements for agreements and contracts. The County reserves the right to modify the agreement resulting from this bid upon the recommendation of the County Attorney.

21. EQUAL EMPLOYMENT OPPORTUNITY ("EEO") IN PURCHASING AND CONTRACTING

To be eligible for award of this Agreement, the Bidder must certify and fully comply with the requirements, terms, and conditions of the County's Non Discrimination in Contracting and Procurement.

22. JOINT VENTURE

Any Bidder intending to respond to this solicitation as a joint venture must submit an executed joint venture agreement with its offer. The agreement must designate those persons or entities authorized to execute documents or otherwise bind the joint venture in all transactions with Fulton County, or be accompanied by a document, binding upon the joint venture and its constituent members, making

such designation. Offers from joint ventures that do not include these documents will be rejected as being non-responsive.

23. CONTRACTORS COMPLIANCE WITH ALL ASSURANCES AND/OR PROMISES MADE IN RESPONSE TO PROCUREMENT

Should any Bidder submit a response to the County promising to provide a certain level of service for either the scope of work, MFBE participation, or any other matter, including where such promise or assurance is greater than what is required by the procurement documents, and should this response containing the promise or assurance be accepted by the County and made a part of the Contract Documents, then this degree or level of service promised by the bidder relating to the scope of work, MFBE participation, or other matter shall be considered to be a material part of the Agreement between the bidder and the County, such that the bidder's failure to provide the agreed upon degree or level of service or participation shall be a material breach of the Agreement giving the County just cause to terminate the Agreement for cause, pursuant to the General Conditions of the Agreement.

24. GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT

This Invitation to Bid is subject to the Georgia Security & Immigration Compliance Act. Effective July 1, 2013, bidders and proposers are notified that all bids/proposals for services that are to be physically performed within the State of Georgia must be accompanied by proof of their registration with and continuing and future participation in the E-Verify program established by the United States Department of Homeland Security. Physical performance of services means any performance of labor or services for a public employer using a bidding process or by contract wherein the labor or services exceed \$2,499.99 99 (except for services performed by an individual who is licensed pursuant to Title 26, Title 43, or the State Bar of Georgia).

A completed affidavit must be submitted on the top of the bid/proposal at the time of submission, prior to the time for opening bids/proposals. Under state law, the County cannot consider any bid/proposal which does not include a completed affidavit. It is not the intent of this notice to provide detailed information or legal advice concerning the Georgia Security & Immigration Compliance Act. All bidders/proposers intending to do business with the County are responsible for independently apprising themselves and complying with the requirements of that law and its effect on County procurements and their participation in those procurements. For additional information on the E-Verify program or to enroll in the program, go to: <https://e-verify.uscis.gov/enroll>.

The Director of Purchasing & Contract Compliance is authorized to conduct random audits of a contractor's or subcontractors' compliance with the Illegal Immigration Reform and Enforcement Act and the rules and regulations of the Georgia Department of Labor.

See Section 00420, Purchasing Forms & Instructions for declarations and affidavits.

25. SUBCONTRACTING OPPORTUNITIES

Potential prime contractors submitting a bid on this project for Fulton County and are seeking subcontractors and/or suppliers can advertise those subcontracting opportunities on the County's website, <http://www.fultoncountyga.gov> under "Subcontracting Bid Opportunities".

26. TERM OF CONTRACT

The term of the Agreement shall be for a period of three hundred sixty-five calendar days, or as may be amended under the Agreement to comprise the Agreement Time. Contractor shall commence the Work within ten calendar days after receipt of Notice to Proceed and shall substantially complete the Work within three hundred (300) calendar days from issuance of the Notice to Proceed and finally complete the Work within three hundred sixty-five calendar (365) days of issuance of the Notice to Proceed.

27. NO CONTACT PROVISION

It is the policy of Fulton County that the evaluation and award process for County contracts shall be free from both actual and perceived impropriety, and that contacts between potential vendors and County officials, elected officials and staff regarding pending awards of County contracts shall be prohibited.

- A. No person, firm, or business entity, however situated or composed, obtaining a copy of or responding to this solicitation, shall initiate or continue any verbal or written communication regarding this solicitation with any County officer, elected official, employee, or designated County representative, between the date of the issuance of this solicitation and the date of the County Manager's recommendation to the Board of Commissioners for award of the subject contract, except as may otherwise be specifically authorized and permitted by the terms and conditions of this solicitation.
- B. All verbal and written communications initiated by such person, firm, or entity regarding this solicitation, if same are authorized and permitted by the terms and conditions of this solicitation, shall be directed to the Purchasing Agent.
- C. Any violation of this prohibition of the initiation or continuation of verbal or written communications with County officers, elected officials, employees, or designated County representatives shall result in a written finding by the Purchasing Agent that the submitted Bid or proposal of the person, firm, or entity in violation is "non-responsive", and same shall not be considered for award.

28. AUTHORIZATION TO TRANSACT BUSINESS

If the Contractor is a corporation or corporations combined to form a joint venture, the corporation or members of the joint venture team, prior to Agreement execution, must submit documentary evidence from the Secretary of State that the corporation is in good standing and that the corporation is authorized to transact business in the State of Georgia.

29. PRE-CONSTRUCTION CONFERENCE

A pre-construction conference may be held with the successful Bidder and all known Subcontractors at a time and place set by the County.

30. SUBSTITUTIONS

See Special Conditions Article.

31. RIGHT TO PROTEST

Any actual bidder or offeror that has submitted a bid/proposal for a particular procurement and is aggrieved in connection with the solicitation or award of the contract shall protest in writing to the purchasing agent after the date that the specific bid or proposal is submitted. No protest will be accepted or considered prior to the date the specific bid or proposal is submitted; it will be considered untimely. All protests shall set forth in full detail the factual and legal bases for the protest and specific relief sought by the protestor. Protests arising from factual or legal bases that the protestor knew or should have known prior to the submission of the bid/proposal must be submitted within three business days of the submission of the bid/proposal. Protests arising from factual or legal bases that the protestor knew or should have known subsequent to the date the bid/proposal was submitted must be submitted within ten business days after the protestor knew or should have known of such bases, but in no event shall any protest be submitted more than ten business days after the award of the contract. Untimely protests will not be considered by the purchasing agent and will be simply denied as untimely. Decisions on timeliness by the purchasing agent are not appealable. An oral protest or a protest to an official, employee, User Department, or other person apart from the Director of Purchasing & Contract Compliance does not comply.

32. BID GENERAL CONDITIONS

1. Proposals may be withdrawn upon receipt of a written request prior to the stated due date and time. If a firm seeks to withdraw a proposal after the due date and time, the firm must present a notarized statement indicating that an error was made, with an explanation of how it occurred. The withdrawal request must be accompanied by documentation supporting the claim. Prior to approving or disapproving the request, an opinion will be obtained from Fulton County's Legal Counsel indicating whether the firm is bound by its proposal.

Proposals for projects that are solicited pursuant to the Georgia Local Government Public Works Construction Law (O.C.G.A. § 36-91-1 et seq.) may be withdrawn as follows:

The County must advise Offerors in the request for proposals of the number of days that Offerors will be required to honor their proposals. If an Offeror is not selected within 60 days of opening the proposals, any Offeror that is determined by the governmental entity to be unlikely of being selected for contract award will be released from the proposal.

2. Fulton County shall be the sole judge of the quality and the applicability of all proposals. Design, features, overall quality, local facilities, terms and other pertinent considerations will be taken into account in determining acceptability.
3. The successful Offeror must assume full responsibility for delivery of all goods and services proposed.
4. The successful Offeror must assume full responsibility for replacement of all defective or damaged goods and/or performance of contracted services within thirty (30) days' notice by the County of such defect, damage or deficiency.
5. The successful Offeror must assume full responsibility for providing warranty service on all goods, materials, or equipment provided to the County with warranty coverage. Should a vendor be other than the manufacturer, the vendor and not the County is responsible for contacting the manufacturer. The Offeror is solely responsible for arranging for the service to be performed.
6. The successful Offeror shall be responsible for the proper training and certification of personnel used in the performance of the services proposed.
7. The successful Offeror shall not assign, transfer, convey, sublet, or otherwise dispose of any contract resulting from the RFP or of any of its rights, title or interest therein without prior written consent of the Fulton County Board of Commissioners.
8. In case of default by the successful Offeror, Fulton County may procure the articles or services from another source and hold the successful Vendor responsible for any resultant excess cost.
9. All proposals and bids submitted to Fulton County are subject to the Georgia "Open Records Act", Official Code of Georgia, Annotated (O.C.G.A.) § 50-18-70 et seq.
10. All proposals and bids submitted to Fulton County involving Utility Contracting are subject to the Georgia law governing licensing of Utility Contractors, O.C.G.A. §43-14-8.2(h).

33. SUBMITTALS

The following submittals must be completed and submitted with the Bid Submittal. This checklist is provided to ensure that the Bidder submits certain required information with its Bid.

	Bid Submittal Check Sheet	Check (√)
1.	Georgia Security and Immigration Contractor Affidavit(s) and Agreements	
2.	Georgia Security and Immigration Subcontractor Affidavit(s)	
3.	Bid Form	
4.	Acknowledgment of Addenda	
5.	Bid Bond	
6.	Non-Collusion Affidavit	
7.	Certificate of Acceptance of Request for Bid	
8.	Georgia Utility Contractor’s License (if applicable)	
9.	Georgia General Contractors License (if applicable)	
10.	Georgia Professional License (if applicable)	
11.	Certificate Regarding Debarment	
12.	Disclosure Form and Questionnaire	
13.	Office of Contract Compliance Requirements (submitted in a separate envelope)	
14.	Proof of Insurance Coverage	

END OF SECTION

BID FORM

Submitted To: Fulton County Government

Submitted By: _____

For: **[INSERT PROJECT # AND TITLE]**

Submitted on _____, 20__.

The undersigned, as Bidder, hereby declares that the only person or persons interested in the Bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this Bid or in the Contract to be entered into; that this Bid is made without connection with any other person, company or parties making a Bid; and that it is in all respects fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the Drawings and Specifications for the work and contractual documents relative thereto, and has read all instructions to Bidders and General Conditions furnished prior to the openings of bids; that he has satisfied himself relative to the work to be performed.

The Bidder proposes and agrees, if this Bid is accepted, to contract with the Board of Commissioners of Fulton County, Atlanta, Georgia, in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary, and to complete the construction of the work in full and complete accordance with the shown, noted, and reasonably intended requirements of the Specifications and Contract Documents to the full and entire satisfaction of the Board of Commissioners of Fulton County, Atlanta, Georgia, with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and Contract Documents for the following prices.

THE BASE BID IS THE AMOUNT UPON WHICH THE BIDDER WILL BE FORMALLY EVALUATED AND WHICH WILL BE USED TO DETERMINE THE LOWEST RESPONSIBLE BIDDER.

The base bid may not be withdrawn or modified for a period of sixty (60) days following the receipt of bids.

BASE BID AMOUNT

\$ _____
(Dollar Amount In Numbers)

(Dollar Amount in Words)

The Bidder agrees hereby to commence work under this Contract, with adequate personnel and equipment, on a date to be specified in a written "Notice to Proceed" from the County.

The Bidder declares that he understands that the quantities shown for the unit prices items are subject to either increase or decrease, and that should the quantities of any of the items of work be increased, the Bidder proposes to do the additional work at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for anticipated profits for any decrease in quantities; and that actual quantities will be determined upon completion of work, at which time adjustments will be made to the contract amount by direct increase or decrease.

BASE BID AMOUNT

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL PRICE
1.					
2.					
3.					
4.					
5.	Owner Controlled Contingency				\$200,000
	TOTAL BASE BID AMOUNT (lines 1-5)				

The Bidder furthermore agrees that, in the case of a failure on his part to execute the Contract Agreement and Bonds within ten days after receipt of conformed contract documents for execution, the Bid Bond accompanying his bid and the monies payable thereon shall be paid into the funds of the Owner as liquidated damages for such failure.

Enclosed is a Bid Bond in the approved form, in the sum of:

_____ Dollars

(\$ _____) according to the conditions of "Instructions to Bidders" and provisions thereof.

The undersigned acknowledges receipt of the following addenda (list by the number and date appearing on each addendum) and thereby affirms that its Bid considers and incorporates any modifications to the originally issued Bidding Documents included therein.

ADDENDUM # _____ DATED _____
 ADDENDUM # _____ DATED _____
 ADDENDUM # _____ DATED _____
 ADDENDUM # _____ DATED _____

BIDDER: _____

Signed by: _____

[Type or Print Name]

Title: _____

Business Address: _____

Business Phone: _____

Note: If the Bidder is a corporation, the Bid shall be signed by an officer of the corporation; if a partnership, it shall be signed by a partner. If signed by others, authority for signature shall be attached.

The full name and addresses of persons or parties interested in the foregoing Bid, as principals, are as follows:

Name	Address
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

END OF SECTION

BID BOND

No bid for a contract in Fulton County for work to be done shall be valid for any purpose unless the Contractor shall give a Bid Bond with good and sufficient surety payable to, in favor of, and for the protection of Fulton County. The Bid Bond shall not be less than 5% of the total amount payable by the terms of the Contract. No bid shall be read aloud or considered if a proper bid bond has not been submitted.

Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Georgia.

Attestation for the corporation must be by the corporate officer; for a partnership by another partner; for an individual by a notary with the corporate seal.

BID BOND
15ITB98380K-JAJ CENTRAL LIBRARY ROOF REPLACEMENT
FULTON COUNTY GOVERNMENT

KNOW ALL MEN BY THESE PRESENTS, THAT WE _____

hereinafter called the PRINCIPAL, and _____

hereinafter call the SURETY, a corporation chartered and existing under the laws of the State of _____ and duly authorized to transact Surety business in the State of Georgia, are held and firmly bound unto the Fulton County Government (COUNTY), in the penal sum of _____ Dollars and Cents (\$ _____) good and lawful money of the United States of America, to be paid upon demand of the COUNTY, to which payment well and truly to be made we bind ourselves, our heirs, executors, and administrators and assigns, jointly and severally and firmly by these presents.

WHEREAS the PRINCIPAL has submitted to the COUNTY, for **15ITB98380K-JAJ Central Library Roof Replacement**, a Bid;

WHEREAS the PRINCIPAL desires to file this Bond in accordance with law:

NOW THEREFORE: The conditions of this obligation are such that if the Bid be accepted, the PRINCIPAL shall within ten (10) calendar days after receipt of written notification from the COUNTY of the award of the Contract execute the Contract in accordance with the Bid and upon the terms, conditions and prices set forth therein, in the form and manner required by the COUNTY, and execute sufficient and satisfactory Performance and Payments Bonds payable to the COUNTY, each in the amount of one hundred percent (100%) of the total contract price, in form and with security satisfactory to said COUNTY, then this obligation to be void; otherwise, to be and remain in full force and virtue in law; and the SURETY shall upon failure of the PRINCIPAL to comply with any or all of the foregoing requirements within the time specified above immediately pay to the COUNTY, upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

In the event suit is brought upon this Bond by the COUNTY and judgment is recovered, the SURETY shall pay all costs incurred by the COUNTY in such suit, including attorney's fees to be fixed by the Court.

Enclosed is a Bid Bond in the approved form, in the amount of _____
_____ Dollars

(\$_____) being in the amount of five percent (5%) of the Contract Sum.
The money payable on this bond shall be paid to the COUNTY, for the failure of the Bidder to
execute a Contract within ten (10) days after receipt of the Contract and at the same time furnish
a Payment Bond and Performance Bond.

(SIGNATURES ON NEXT PAGE)

IN TESTIMONY THEREOF, the PRINCIPAL and SURETY have caused these presents to be duly signed and sealed this _____ day of _____, 20__

ATTEST:

PRINCIPAL

_____ BY _____

(SEAL)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as principal in the within bond; that _____, who signed the said bond of said corporation; that I know this signature, and his/her signature thereto is genuine; and that said bond was duly signed, sealed and attested for in behalf of said Corporation by authority of its governing body.

SECRETARY

(CORPORATE SEAL)

SURETY

_____ BY _____

(SEAL)

END OF SECTION

PAYMENT BOND

No Contract with Fulton County for work to be done shall be valid for any purpose unless the Contractor provides a Payment Bond with good and sufficient surety payable to Fulton County for the use and protection of all sub-contractors and all persons supplying labor, materials, machinery, and equipment in the prosecution of the work provided for in the Contract. The Payment Bond shall be in the amount of 100% of the total contract amount, payable by the terms of the Contract, and shall be written on the following form.

Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Georgia.

Attestation for the corporation must be by the corporate officer; for a partnership by another partner; for an individual by a notary with the corporate seal.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that *[insert name of contractor]* (hereinafter called the "Principal") and *[insert name of surety]* (hereinafter called the "Surety"), are held and firmly bound unto **FULTON COUNTY**, a political subdivision of the State of Georgia (hereinafter called the "Owner"), its successors and assigns as obligee, in the penal sum of [100% of contract amount], lawful money of the United States of America, for the payment of which the Principal and the Surety bind themselves, their administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written contract with the Owner, dated [insert date of contract], which is incorporated herein by reference in its entirety (hereinafter called the "Contract"), for construction-type services of a project known as [insert name of project], as more particularly described in the Contract (hereinafter called the "Project");

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

1. A "Claimant" shall be defined herein as any subcontractor, person, party, partnership, corporation or the entity furnishing labor, services or materials used, or reasonably required for use, in the performance of the Contract, without regard to whether such labor, services or materials were sold, leased or rented, and without regard to whether such Claimant is or is not in privity of contract with the Principal or any subcontractor performing work on the Project, including, but not limited to, the following labor, services, or materials: water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. In the event a Claimant files a lien against the property of the Owner, and the Principal fails or refuses to satisfy or remove it promptly, the Surety shall satisfy or remove the lien promptly upon written notice from the Owner, either by bond or as otherwise provided in the Contract.

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

4. The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment or modifications to the Contract, so as to bind the Principal and Surety, jointly and severally, to the full payment of any Claimant under the Contract, as amended or modified, provided only that the Surety shall not be liable for more than the penal sum of the Bond, as specified in the first paragraph hereof.

5. This Bond is made for the use and benefit of all persons, firms, and corporations who or which may furnish any materials or perform any labor for or on account of the construction-type services to be performed or supplied under the Contract, and any amendments thereto, and they and each of them may sue hereon.

6. No action may be maintained on this Bond after one (1) year from the date the last services, labor, or materials were provided under the Contract by the Claimant prosecuting said action.

7. This Bond is intended to comply with O.C.G.A. Section 13-10-1, and shall be interpreted so as to comply with the minimum requirements thereof. However, in the event the express language of this Bond extends protection to the Owner beyond that contemplated by O.C.G.A. Section 13-10-1, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the Owner, whether or not such protection is found in the applicable statutes. **IN WITNESS WHEREOF**, the Principal and Surety have hereunto affixed their corporate seals and caused this obligations to be signed by their duly authorized representatives this _____ of _____, _____.

_____(SEAL)
(Principal)

By: _____

Attest:

Secretary

_____(SEAL)
(Surety)

By: _____

Attest:

Secretary

(Address of Surety's Home Office)

(Resident Agent of Surety)

PERFORMANCE BOND

No contract with Fulton County for work to be done shall be valid for any purpose unless the Contractor provides a Performance Bond with good and sufficient surety payable to, in favor of, and for the protection of Fulton County. The Performance Bond shall be in the amount of 100% of the total contract amount, payable by the terms of the Contract, and shall be written on the following form.

Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business as a surety in Georgia.

Attestation for the corporation must be by the corporate officer; for a partnership by another partner; for an individual by a notary with the corporate seal.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that _____
(hereinafter called the "Principal") and _____
(hereinafter called the "Surety"), are held and firmly bound unto **FULTON COUNTY**, a political subdivision of the State of Georgia (hereinafter called the "Owner"), its successors and assigns, in the penal sum of _____
[100% of Contract amount], lawful money of the United States of America, for the payment of which the Principal and the Surety bind themselves, their administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written contract with the Owner, dated _____, which is incorporated herein by reference in its entirety (hereinafter called the "Contract"), for construction-type services of a project known as **Central Library Roof Replacement**, as more particularly described in the Contract (hereinafter called the "Project");

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

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

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

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

incurred by the Owner in making good any such failure of performance on the part of the Principal.

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

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

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

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

This Bond is intended to comply with O.C.G.A. Section 36-91-1 et seq., and shall be interpreted so; as to comply with; the minimum requirements thereof. However, in the event the express language of this Bond extends protection to; the Owner beyond that contemplated by O.C.G.A. Section 36-91-1 et seq. and O.C.G.A. Section 13-10-1, as amended, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the Owner, whether or not such protection is found in the applicable statutes.

IN WITNESS WHEREOF the undersigned have caused this instrument to be executed and their respective corporate seals to be affixed and attested by their duly authorized representatives this _____ day of _____, _____.

_____(SEAL)
(Principal)

By _____

Attest:

Secretary

_____(SEAL)
(Surety)

By: _____

Attest:

Secretary

(Address of Surety's Home Office)

(Resident Agent of Surety)

END OF SECTION

SECTION 4

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.1 LOCATION OF WORK

- A. The work of this contract is located within the City of Atlanta, Georgia, at One Margaret Mitchell Square 30303 as shown on Drawing A-0.1

1.2 DESCRIPTION

- A. Definition: The Work is defined in General Conditions Section 00700-3
- B. Summary: Major areas of the Work consist of, but are not limited to, the following:
1. Walls and Windows:
 - a. Remove existing sealant and backing and replace with new in the horizontal and vertical joints between precast concrete panels accessible from the 5th floor patio and the 7th floor and 8th floor roof.
 - b. Remove existing sealant and gasket material and replace with new in the horizontal and vertical joints at window mullions that are accessible from the 5th floor patio and the 7th floor roof.
 - c. Wash the roof top accessible windows upon completion of the job.
 2. Roofing
 - a. Demolish the existing roofing membrane and insulation on the 7th, and 8th (Chiller Well) floors, the 8th floor roof, and Penthouse roof.
 - b. Remove and salvage existing gravel stops and flashing and termination members.
 - c. Clean, paint and provide sealant for roof penetrations.
 - d. Remove and replace water damaged spray fire proofing at the 8th floor structural steel roof framing and steel decking as indicated on Drawings.
 - e. Scrape and repaint water damaged structural steel and steel decking as indicated on the Drawings.
 - f. Remove and replace damaged ceiling tiles on the 8th floor.
 - g. Remove and replace water damaged batt insulation on the 8th floor ceiling.
 - h. Replace flashing, gravel stops, boots, pitch pockets, roof drains as shown on drawings.
 - i. Replace lightning rods and ground conductors and connectors as indicated on Drawings
 - j. Verify that the window washing structure is sound and meets design loads before using it for material lifts or any other hoisting uses.
 - k. Add new walkway protection pads as indicated on the drawings.
 - l. Demolish unused roof top equipment and poke through stubs that have been abandoned, as shown on the Drawings.

Section – 01010 – Summary of Work

3. 5th Floor Patio
 - a. Remove and store existing flag stone pavers at a location on the 5th floor as directed by Owner.
 - b. Store existing planters in a 5th floor location and reinstall when patio renovation work is complete as directed by Owner.
 - c. Demolish existing concrete sleepers.
 - d. Demolish existing patio roofing membrane.
 - e. Demolish and replace with new flashing, roof drains as shown on the Drawings.
 - f. Replace roofing material as shown on the drawings.
 - g. Construct new concrete sleepers.
 - h. Remove old sealant at the Sky Lights and replace with new.
 - i. Paint exterior and interior of the concrete Sky Light well walls as indicated on the Drawings
4. Roof Drains
 - a. Inspect all roof drains, laterals and vertical drain piping for leaks.
 - b. Install inserts to repair damaged and leaking drain systems.
5. The building must remain open and unobstructed during normal work hours.
6. Normal hourly rates shall apply for all work.

PART 2 - PRODUCTS (Not Required)

PART 3 - EXECUTION (Not Required)

END OF SECTION 01010

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Work described: This section defines requirements for project meetings, of such nature as relates to the overall project.
- B. Related work described elsewhere: A pre-construction conference relating to a specific trade or specific construction process or sequence is specified in the applicable section.

1.2 CONTRACTOR'S DUTIES

- A. Scheduling and notification:
 - 1. Notify invited parties of meeting time and place at least 36 hours prior to meeting.
 - 2. Coordinate timing of progress meetings with Architect and Owner to coincide with progress of major division of work.
 - 3. Make physical arrangements for and preside over meetings.
- B. Administration:
 - 1. Prepare meeting agenda and distribute to invited parties at least 36 hours prior to meetings.
 - 2. Record and promptly distribute copies of minutes of significant proceedings and decision of meetings.
 - 3. Prepare and distribute copies of construction progress schedules as originally issued or subsequently approved, marked to show current progress.

1.3 PRE-CONSTRUCTION CONFERENCE

- A. Scheduling: A pre-construction conference shall be held at a location to be announced, prior to commencement of the Work.
- B. Attendance:
 - 1. Owner
 - 2. Architect and invited consultants
 - 3. Contractor
 - 4. Major subcontractors as requested by Owner, Architect and Contractor
 - 5. Representatives of separate contractors, when applicable.
- C. Minimum agenda:
 - 1. Distribute and discuss list of major subcontractors and material suppliers

Section – 01200 – Project Meetings

2. Distribute and review insurance submittals
3. Distribute tentative construction progress schedule and submittals schedule, with discussion of critical work sequencing.
4. Identify and designate responsible personnel.
5. Process and distribute field decisions, change orders and other Contract Documents
6. Process required submittals, including shop drawings, samples and product data, and review Contractor's submittal schedules.
7. Establish procedures for maintaining required Record Document and Maintenance Manuals.
8. Discuss use of site, including temporary offices, storage areas, erosion control and site use limitations and restrictions.
9. Discuss material and equipment deliveries, storage, protection and priorities
10. Discuss security procedures and methods.
11. Discuss housekeeping procedures and methods.
12. Discuss special project requirements and conditions.

1.4 PROGRESS AND COORDINATION MEETINGS:

- A. Scheduling: Unless otherwise requested by Owner or Architect, a progress and coordination meeting shall be held twice monthly, at a time determined by Owner, at job site.
- B. Attendance:
 1. Contractor, represented by Project Manager or Principal.
 2. Contractor's Project Superintendent
 3. Subcontractors and material suppliers specifically invited, as applicable to the progress of the Work
 4. Architect and invited consultants
 5. Owner
- C. Minimum agenda:
 1. Review minutes of previous meeting, with review of follow-up and work progress since previous meeting.
 2. Review field observations, problems and decisions.
 3. Identify problems and potential problems affecting project construction or anticipated progress.
 4. Review problems of materials delivery, off-site fabrication and subcontractor scheduling.
 5. Develop corrective measures and procedures to regain planned schedule when delays occur.
 6. Revise construction progress and submittals schedule to reflect actual progress.
 7. Review details of anticipated construction progress prior to next meeting.
 8. Review workmanship and maintenance of quality standards.
 9. Review proposed changes, including effect on construction progress schedule and completion date.

Section – 01200 – Project Meetings

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01200

SECTION 01320

SCHEDULE OF VALUES

PART 1 GENERAL

1.1 Description of Work

- A. This specification covers the preparation, content and submittal of the schedule of values. The Schedule of Values is an itemized list that establishes the value or cost of each part of the Work. It shall be used as the basis for preparing progress payments.
- B. Preparation
 1. Schedule shall show breakdown of labor, materials equipment and other costs as directed by the Owner.
 2. Costs shall be in sufficient detail to indicate separate amounts for each major subsection of the Work. The Contractor may include an item for bond, insurance, temporary facilities and job mobilization.
 3. Schedule of Values shall be prepared on 8-1/2-inch by 11-inch white paper.
 4. Use the major subsections of the Detailed Scope of Work as the basis for Schedule format. List sub-items of major products or systems as appropriate or when requested by the Owner.
 5. When requested by the Owner, support values with data that will substantiate their correctness.
 6. The sum of the individual values shown on the Schedule of Values must equal the total Job Order Price.
 7. Schedule shall show the purchase and delivery costs for materials and equipment that the Contractor anticipates he shall request payment for prior to their installation.
- C. Submittal: Submit two copies of Schedule, or any other number of copies as directed by the Owner, to the Owner for approval at least 20 days prior to submitting first application for a progress payment.

After review by the Owner, revise and resubmit Schedule as required until it is approved.

Part 2 PRODUCTS (Not Used)

Part 3 EXECUTION (Not Used)

END OF SECTION 01320

SECTION 01320a

REFERENCES

1.1 GENERAL

A. Definitions

1. General: Basic Contract definitions are included in the Conditions of the Contract.
2. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
3. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
4. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
5. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
6. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
7. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
8. "Provide": Furnish and install, complete and ready for the intended use.
9. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

B. Industry Standards

1. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
2. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
3. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - a. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

C. Abbreviations And Acronyms

1. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA Aluminum Association, Inc. (The) (703) 358-2960

www.aluminum.org

AAADM American Association of Automatic Door Manufacturers (216) 241-7333

www.aaadm.com

AABC Associated Air Balance Council (202) 737-02

AAMA American Architectural Manufacturers Association (847) 303-5664

www.aamanet.org

AASHTO American Association of State Highway and Transportation Officials

(202) 624-5800

www.transportation.org

AATCC American Association of Textile Chemists and Colorists (The)

(919) 549-8141

www.aatcc.org

ABAA Air Barrier Association of America (866) 956-5888

www.airbarrier.org

ABMA American Bearing Manufacturers Association (202) 367-1155

www.abma-dc.org

ACI ACI International (248) 848-3700

(American Concrete Institute)

www.aci-int.org

ACPA American Concrete Pipe Association (972) 506-7216

www.concrete-pipe.org

AEIC Association of Edison Illuminating Companies, Inc. (The) (205) 257-2530

www.aeic.org

AF&PA American Forest & Paper Association (800) 878-8878

www.afandpa.org (202) 463-2700

AGA American Gas Association (202) 824-7000

www.aga.org

AGC Associated General Contractors of America (The) (703) 548-3118

www.agc.org

AHA American Hardboard Association

(Now part of CPA)

AHAM Association of Home Appliance Manufacturers (202) 872-5955

www.aham.org

AI Asphalt Institute (859) 288-4960

www.asphaltinstitute.org

AIA American Institute of Architects (The) (800) 242-3837

www.aia.org (202) 626-7300

AISC American Institute of Steel Construction (800) 644-2400
www.aisc.org (312) 670-2400
AISI American Iron and Steel Institute (202) 452-7100
www.steel.org
AITC American Institute of Timber Construction (303) 792-9559
www.aitc-glulam.org
ALCA Associated Landscape Contractors of America
(Now PLANET - Professional Landcare Network)
ALSC American Lumber Standard Committee, Incorporated (301) 972-
1700
www.alsc.org
AMCA Air Movement and Control Association International, Inc. (847)
394-0150
www.amca.org
ANSI American National Standards Institute (202) 293-8020
www.ansi.org
AOSA Association of Official Seed Analysts, Inc. (405) 780-7372
www.aosaseed.com
APA Architectural Precast Association (239) 454-6989
www.archprecast.org
APA APA - The Engineered Wood Association (253) 565-6600
www.apawood.org
APA EWS APA - The Engineered Wood Association; Engineered Wood
Systems
(See APA - The Engineered Wood Association)
API American Petroleum Institute (202) 682-8000
www.api.org
ARI Air-Conditioning & Refrigeration Institute (703) 524-8800
www.ari.org
ARMA Asphalt Roofing Manufacturers Association (202) 207-0917
www.asphaltroofing.org
ASCE American Society of Civil Engineers (800) 548-2723
www.asce.org (703) 295-6300
ASCE/SEI American Society of Civil Engineers/Structural Engineering
Institute
(See ASCE)
ASHRAE American Society of Heating, Refrigerating and Air-
Conditioning
Engineers
(800) 527-4723
www.ashrae.org (404) 636-8400
ASME ASME International (800) 843-2763
(The American Society of Mechanical Engineers International) (973)
882-1170
www.asme.org
ASSE American Society of Sanitary Engineering (440) 835-3040
www.asse-plumbing.org
ASTM ASTM International (610) 832-9585
EJMA Expansion Joint Manufacturers Association, Inc. (914) 332-0040

www.ejma.org
ESD Association (315) 339-6937
www.esda.org
FIBA Federation Internationale de Basketball 41 22 545 00 00
(The International Basketball Federation)
www.fiba.com
FIVB Federation Internationale de Volleyball 41 21 345 35 35
(The International Volleyball Federation)
www.fivb.ch
FM Approvals (781) 762-4300
www.fmglobal.com
FM Global (401) 275-3000
(Formerly: FMG - FM Global)
www.fmglobal.com
FMRC Factory Mutual Research
(Now FM Global)
FRSA Florida Roofing, Sheet Metal & Air Conditioning Contractors
Association, Inc.
(407) 671-3772
www.floridarroof.com
FSA Fluid Sealing Association (610) 971-4850
www.fluidsealing.com
FSC Forest Stewardship Council 49 228 367 66 0
www.fsc.org
GA Gypsum Association (202) 289-5440
www.gypsum.org
GANA Glass Association of North America (785) 271-0208
www.glasswebsite.com
GRI (Now GSI)
GS Green Seal (202) 872-6400
www.greenseal.org
GSI Geosynthetic Institute (610) 522-8440
www.geosynthetic-institute.org
HI Hydraulic Institute (888) 786-7744
www.pumps.org (973) 267-9700
HI Hydronics Institute (908) 464-8200
www.gamanet.org
HMMA Hollow Metal Manufacturers Association
(Part of NAAMM)
HPVA Hardwood Plywood & Veneer Association (703) 435-2900
www.hpva.org
HPW H. P. White Laboratory, Inc. (410) 838-6550
www.hpwhite.com
IAS International Approval Services
(Now CSA International)
IBF International Badminton Federation (6-03) 9283-7155
www.internationalbadminton.org
ICEA Insulated Cable Engineers Association, Inc. (770) 830-0369
www.icea.net

ICRI International Concrete Repair Institute, Inc. (847) 827-0830
www.icri.org
IEC International Electrotechnical Commission 41 22 919 02 11
www.iec.ch
IEEE Institute of Electrical and Electronics Engineers, Inc. (The) (212) 419-7900
www.ieee.org
IESNA Illuminating Engineering Society of North America (212) 248-5000
www.iesna.org
IEST Institute of Environmental Sciences and Technology (847) 255-1561
www.iest.org
IGCC Insulating Glass Certification Council (315) 646-2234
www.igcc.org
IGMA Insulating Glass Manufacturers Alliance (613) 233-1510
www.igmaonline.org
ILI Indiana Limestone Institute of America, Inc. (812) 275-4426
www.iliai.com
ISO International Organization for Standardization 41 22 749 01 11
www.iso.ch
Available from ANSI (202) 293-8020
www.ansi.org
ISSFA International Solid Surface Fabricators Association (877) 464-7732
www.issfa.net (702) 567-8150
ITS Intertek Testing Service NA (972) 238-5591
www.intertek.com
ITU International Telecommunication Union
www.itu.int/home
KCMA Kitchen Cabinet Manufacturers Association (703) 264-1690
www.kcma.org
LMA Laminating Materials Association
(Now part of CPA)
LPI Lightning Protection Institute (800) 488-6864
www.lightning.org
MBMA Metal Building Manufacturers Association (216) 241-7333
www.mbma.com
MFMA Maple Flooring Manufacturers Association, Inc. (847) 480-9138
www.maplefloor.org
MFMA Metal Framing Manufacturers Association, Inc. (312) 644-6610
www.metalframingmfg.org
MH Material Handling
(Now MHIA)
MHIA Material Handling Industry of America (800) 345-1815
www.mhia.org (704) 676-1190
MIA Marble Institute of America (440) 250-9222
www.marble-institute.com
MPI Master Painters Institute (888) 674-8937

www.paintinfo.com
MSS Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
(703) 281-6613
www.mss-hq.com
NAAMM National Association of Architectural Metal Manufacturers
(312) 332-0405
www.naamm.org
NACE NACE International (800) 797-6623
(National Association of Corrosion Engineers International) (281) 228-6200
www.nace.org
NADCA National Air Duct Cleaners Association (202) 737-2926
www.nadca.com
NAGWS National Association for Girls and Women in Sport (800) 213-7193,
ext. 453
www.aahperd.org/nagws/
NAIMA North American Insulation Manufacturers Association (703) 684-0084
www.naima.org
NBGQA National Building Granite Quarries Association, Inc. (800) 557-2848
www.nbgqa.com
NCAA National Collegiate Athletic Association (The) (317) 917-6222
www.ncaa.org
NCMA National Concrete Masonry Association (703) 713-1900
www.ncma.org
NCPI National Clay Pipe Institute (262) 248-9094
www.ncpi.org
NCTA National Cable & Telecommunications Association (202) 775-3550
www.ncta.com
NEBB National Environmental Balancing Bureau (301) 977-3698
www.nebb.org
NECA National Electrical Contractors Association (301) 657-3110
www.necanet.org
NeLMA Northeastern Lumber Manufacturers' Association (207) 829-6901
www.nelma.org
NEMA National Electrical Manufacturers Association (703) 841-3200
www.nema.org
NETA InterNational Electrical Testing Association (888) 300-6382
www.netaworld.org (303) 697-8441
NFHS National Federation of State High School Associations (317) 972-6900
www.nfhs.org
NFPA NFPA (800) 344-3555
(National Fire Protection Association) (617) 770-3000

www.nfpa.org
NFRC National Fenestration Rating Council (301) 589-1776
www.nfrc.org
NGA National Glass Association (866) 342-5642
www.glass.org (703) 442-4890
NHLA National Hardwood Lumber Association (800) 933-0318
www.natlhardwood.org (901) 377-1818
NLGA National Lumber Grades Authority (604) 524-2393
www.nlga.org
NOFMA NOFMA: The Wood Flooring Manufacturers Association (901)
526-5016
(Formerly: National Oak Flooring Manufacturers Association)
www.nofma.com
NRCA National Roofing Contractors Association (800) 323-9545
www.nrca.net (847) 299-9070
NRMCA National Ready Mixed Concrete Association (888) 846-7622
www.nrmca.org (301) 587-1400
NSF NSF International (800) 673-6275
(National Sanitation Foundation International) (734) 769-8010
www.nsf.org
NSSGA National Stone, Sand & Gravel Association (800) 342-1415
www.nssga.org (703) 525-8788
NTMA National Terrazzo & Mosaic Association, Inc. (The) (800) 323-
9736
www.ntma.com (540) 751-0930
NTRMA National Tile Roofing Manufacturers Association
(Now TRI)
NWWDA National Wood Window and Door Association
(Now WDMA)
OPL Omega Point Laboratories, Inc.
(Now ITS)
PCI Precast/Prestressed Concrete Institute (312) 786-0300
www.pci.org
PDCA Painting & Decorating Contractors of America (800) 332-7322
www.pdca.com (314) 514-7322
PDI Plumbing & Drainage Institute (800) 589-8956
www.pdionline.org (978) 557-0720
PGI PVC Geomembrane Institute (217) 333-3929
http://pgi-tp.ce.uiuc.edu
PLANET Professional Landcare Network (800) 395-2522
(Formerly: ACLA - Associated Landscape Contractors of
America)
(703) 736-9666
www.landcarenetwork.org
PTI Post-Tensioning Institute (602) 870-7540
www.post-tensioning.org
RCSC Research Council on Structural Connections
www.boltcouncil.org
RFCI Resilient Floor Covering Institute (301) 340-8580

www.rfci.com
RIS Redwood Inspection Service (888) 225-7339
www.calredwood.org (415) 382-0662
SAE SAE International (877) 606-7323
www.sae.org (724) 776-4841
SDI Steel Deck Institute (847) 458-4647
www.sdi.org
SDI Steel Door Institute (440) 899-0010
www.steeldoor.org
SEFA Scientific Equipment and Furniture Association (516) 294-5424
www.sefalabs.com
SEI/ASCE Structural Engineering Institute/American Society of Civil Engineers
(See ASCE)
SGCC Safety Glazing Certification Council (315) 646-2234
www.sgcc.org
SIA Security Industry Association (703) 683-2075
www.siaonline.org
SIGMA Sealed Insulating Glass Manufacturers Association
(Now IGMA)
SJI Steel Joist Institute (843) 626-1995
www.steeljoist.org
SMA Screen Manufacturers Association (561) 533-0991
www.smacentral.org
SMACNA Sheet Metal and Air Conditioning Contractors' (703) 803-2980
National Association
www.smacna.org
SMPTE Society of Motion Picture and Television Engineers (914) 761-1100
www.smpte.org
SPFA Spray Polyurethane Foam Alliance (800) 523-6154
(Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.;
Spray Polyurethane Foam Division)
www.sprayfoam.org
SPIB Southern Pine Inspection Bureau (The) (850) 434-2611
www.spib.org
SPRI Single Ply Roofing Industry (781) 647-7026
www.spri.org
SSINA Specialty Steel Industry of North America (800) 982-0355
www.ssina.com (202) 342-8630
SSPC SSPC: The Society for Protective Coatings (877) 281-7772
www.sspc.org (412) 281-2331
STI Steel Tank Institute (847) 438-8265
www.steeltank.com
SWI Steel Window Institute (216) 241-7333
www.steelwindows.com
SWRI Sealant, Waterproofing, & Restoration Institute (816) 472-7974
www.swrionline.org

TCA Tile Council of America, Inc. (864) 646-8453
www.tileusa.com
TIA/EIA Telecommunications Industry Association/Electronic Industries Alliance
(703) 907-7700
www.tiaonline.org
TMS The Masonry Society (303) 939-9700
www.masonrysociety.org
TPI Truss Plate Institute, Inc. (703) 683-1010
www.tpinst.org
TPI Turfgrass Producers International (800) 405-8873
www.turfgrassod.org (847) 649-5555
TRI Tile Roofing Institute (312) 670-4177
www.tilerroofing.org
UL Underwriters Laboratories Inc. (877) 854-3577
www.ul.com (847) 272-8800
UNI Uni-Bell PVC Pipe Association (972) 243-3902
www.uni-bell.org
USAV USA Volleyball (888) 786-5539
www.usavolleyball.org (719) 228-6800
USGBC U.S. Green Building Council (202) 828-7422
www.usgbc.org
USITT United States Institute for Theatre Technology, Inc. (800) 938-7488
www.usitt.org (315) 463-6463
WASTEC Waste Equipment Technology Association (800) 424-2869
www.wastec.org (202) 244-4700
WCLIB West Coast Lumber Inspection Bureau (800) 283-1486
www.wclib.org (503) 639-0651
WCMA Window Covering Manufacturers Association
(Now WCSC)
WCSC Window Covering Safety Council (800) 506-4636
(Formerly: WCMA - Window Covering Manufacturers Association)
(212) 297-2109
www.windowcoverings.org
WDMA Window & Door Manufacturers Association (800) 223-2301
(Formerly: NWWDA - National Wood Window and Door Association)
(847) 299-5200
www.wdma.com
WI Woodwork Institute (Formerly: WIC - Woodwork Institute of (916) 372-9943 California)
www.wicnet.org
WIC Woodwork Institute of California
(Now WI)
WMMPA Wood Moulding & Millwork Producers Association (800) 550-7889

www.wmmpa.com (530) 661-9591
WSRCA Western States Roofing Contractors Association (800) 725-0333
www.wsrca.com (650) 570-5441
WWPA Western Wood Products Association (503) 224-3930
www.wwpa.org

2. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

BOCA BOCA International, Inc.
(See ICC)
IAPMO International Association of Plumbing and Mechanical Officials
(909) 472-4100
www.iapmo.org
ICBO International Conference of Building Officials
(See ICC)
ICBO ES ICBO Evaluation Service, Inc.
(See ICC-ES)
ICC International Code Council (888) 422-7233
www.iccsafe.org (703) 931-4533
ICC-ES ICC Evaluation Service, Inc. (800) 423-6587
www.icc-es.org (562) 699-0543
SBCCI Southern Building Code Congress International, Inc.
(See ICC)
UBC Uniform Building Code
(See ICC)

3. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE Army Corps of Engineers
www.usace.army.mil
CPSC Consumer Product Safety Commission
www.cpsc.gov (301) 504-7923
DOC Department of Commerce (202) 482-2000
www.commerce.gov

DOD Department of Defense (215) 697-6257
<http://.dodssp.daps.dla.mil>
DOE Department of Energy (202) 586-9220
www.energy.gov
EPA Environmental Protection Agency (202) 272-0167
www.epa.gov
FAA Federal Aviation Administration (866) 835-5322
www.faa.gov
FCC Federal Communications Commission (888) 225-5322
www.fcc.gov
FDA Food and Drug Administration (888) 463-6332
www.fda.gov
GSA General Services Administration (800) 488-3111
www.gsa.gov
HUD Department of Housing and Urban Development (202) 708-1112
www.hud.gov
LBL Lawrence Berkeley National Laboratory (510) 486-4000
www.lbl.gov
NCHRP National Cooperative Highway Research Program
(See TRB)
NIST National Institute of Standards and Technology (301) 975-6478
www.nist.gov
OSHA Occupational Safety & Health Administration (800) 321-6742
www.osha.gov (202) 693-1999
PBS Public Building Service
(See GSA)
PHS Office of Public Health and Science (202) 690-7694
www.osophs.dhhs.gov/ophs
RUS Rural Utilities Service (202) 720-9540
(See USDA)
SD State Department (202) 647-4000
www.state.gov
TRB Transportation Research Board (202) 334-2934
<http://gulliver.trb.org>
USDA Department of Agriculture (202) 720-2791
www.usda.gov
USPS Postal Service (202) 268-2000
www.usps.com

4. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG Americans with Disabilities Act (ADA) (800) 872-2253
Architectural Barriers Act (ABA) (202) 272-0080
Accessibility Guidelines for Buildings and Facilities

Available from Access Board
www.access-board.gov
CFR Code of Federal Regulations (866) 512-1800
Available from Government Printing Office (202) 512-1800
www.gpoaccess.gov/cfr/index.html
DOD Department of Defense Military Specifications and Standards
(215) 697-2664
Available from Department of Defense Single Stock Point
<http://dodssp.daps.dla.mil>
DSCC Defense Supply Center Columbus
(See FS)
FED-STD Federal Standard
(See FS)
FS Federal Specification (215) 697-2664
Available from Department of Defense Single Stock Point
<http://dodssp.daps.dla.mil>
Available from Defense Standardization Program
www.dps.dla.mil
Available from General Services Administration (202) 619-8925
www.gsa.gov
Available from National Institute of Building Sciences (202) 289-7800
www.wbdg.org/ccb
FTMS Federal Test Method Standard (See FS)
MIL (See MILSPEC)
MIL-STD (See MILSPEC)
MILSPEC Military Specification and Standards (215) 697-2664
Available from Department of Defense Single Stock Point
<http://dodssp.daps.dla.mil>
UFAS Uniform Federal Accessibility Standards (800) 872-2253
Available from Access Board (202) 272-0080
www.access-board.gov

5. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation
(800) 952-5210
www.dca.ca.gov/bhfti (916) 574-2041
CCR California Code of Regulations (916) 323-6815
www.calregs.com
CPUC California Public Utilities Commission (415) 703-2782
www.cpuc.ca.gov

TFS Texas Forest Service (979) 458-6650
Forest Resource Development
<http://txforestservation.tamu.edu>

2.1 - PRODUCTS (Not Used)

3.1 - EXECUTION (Not Used)

END OF SECTION 01320a

SECTION 01320b

CUTTING AND PATCHING

1.1 GENERAL

- A. Description of Work
1. This specification covers the furnishing and installation of materials for cutting and patching. Products shall be as follows or as directed by the Owner. Installation procedures shall be in accordance with the product manufacturer's recommendations. Demolition and removal of materials shall be as required to support the work.
- B. Summary
1. This Section includes procedural requirements for cutting and patching.
- C. Definitions
1. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
 2. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.
- D. Submittals
1. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - a. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - b. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - c. Products: List products to be used and firms or entities that will perform the Work.
 - d. Dates: Indicate when cutting and patching will be performed.
 - e. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - f. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
 - g. the Owner's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

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- E. Quality Assurance
1. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:
 - a. Primary operational systems and equipment.
 - b. Air or smoke barriers.
 - c. Fire-suppression systems.
 - d. Mechanical systems piping and ducts.
 - e. Control systems.
 - f. Communication systems.
 - g. Conveying systems.
 - h. Electrical wiring systems.
 - i. Operating systems of special construction in Division 13.
 3. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Exterior curtain-wall construction.
 - d. Equipment supports.
 - e. Piping, ductwork, vessels, and equipment.
 - f. Noise- and vibration-control elements and systems.
 4. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
 5. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- F. Warranty
1. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

2.1 PRODUCTS

A. Materials

1. General: Comply with requirements specified in other Sections.
2. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - a. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

3.1 EXECUTION

A. Preparation

1. Temporary Support: Provide temporary support of Work to be cut.
2. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
3. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
4. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize OR prevent, as directed, interruption to occupied areas.

B. Performance

1. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - a. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
2. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - a. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - b. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - c. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - d. Excavating and Backfilling: Comply with requirements in applicable Division 02 where required by cutting and patching operations.

Section – 01320b – Cutting and Patching

- e. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - f. Proceed with patching after construction operations requiring cutting are complete.
3. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
- a. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - b. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 1) Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - 2) Restore damaged pipe covering to its original condition.
 - c. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - 1) Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 - d. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 - e. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather-tight condition.
4. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01320b

SECTION 01320c

ABBREVIATIONS, ACRONYMS, DEFINITIONS, AND SYMBOLS

1.1 GENERAL

- A. Description Of Work
1. This specification covers abbreviations, acronyms, definitions, and symbols used in the Contract Documents.
- B. Unit of Measure Definitions
1. Following is a list of Industry Standard abbreviations.

A Area Square Feet;
Ampere
AB Anchor Bolt
ABC Aggregate Base Course
ABS Acrylonitrile Butadiene Styrene
AC Alternating Current;
Air-Conditioning;
Asphaltic Concrete;
Plywood Grade A & C
ACFM Actual Cubic Feet Per Minute
ACM Asbestos Containing Material
ACP Asphaltic Concrete Paving
ACR Acre
AD Plywood, Grade A & D
ADDL Additional
ADJ Adjustable
ADMIN Administer; Administration
AGG Aggregate
AH Ampere Hours
AHM Ampere-Hour Meter
AHU Air Handling Unit
AIC Amperes Interrupting Capacity
AL Aluminum
ALT Alternate
AMP Ampere
AMT Amount
AOT Adjusted Oxygen Transfer
APP Attactic Polypropylene
APPROX Approximate
Apt. Apartment
ART Articulated
ASB Asbestos
ASJ All Surface Jacketing
Avg. Average
AWG American Wire Gauge
BAG Bag
BBL Barrel

B&B Grade B and Better;
Balled & Burlapped
B&S Bell and Spigot
B&W Black and White
BC Between Centers
BCY Bank Cubic Yard
BDL Bundle
BD FT Board Feet
BEV Bevel/Beveled
BF Board Feet
BFP Boiler Feed Pump
BHN Brinell Hardness Number
BHP Boiler Horsepower;
Brake Horsepower
BI Black Iron
Bit. Bituminous
Bitum. Bituminous
Bk. Backed
Brkrs. Breakers
Bldg. Building
BLK Black; Block
BM Bank Measure; Beam
BOD Biochemical Oxygen Demand
BOX Box (each)
BR Bedroom
Brg. Bearing
BRK Brick
BTFly VLV Butterfly Valve
BTR Better (Lumber)
BTU British Thermal Units
BTU/HR British Thermal Units per Hour
BUR Built Up Roof
BW Butt Weld
BWG Birmingham Wire Gauge
BX Interlocked Armored Cable
C Centigrade; Conductance;
Conductivity, Hundred
CA Corrosion Allowance
Cab. Cabinet
CAP Capacity
CB Circuit Breaker
CC Center to Center
CCA Chromate Copper Arsenate
CCF Hundred Cubic Feet
CCY Compacted Cubic Yard
cd Candela
cd/sf Candela per Square Foot
CF Cubic Foot (Feet)
CFM Cubic Feet per Minute
CHG Charge

CHW Chilled Water;
Commercial Hot Water
CI Cast Iron
CIP Cast in Place; Cast Iron Pipe
CIRC Circulating; Circuit
CLF Hundred Linear Feet;
Current Limiting Fuse
CLP Cross Linked Polyethylene
cm Centimeter
CMP Corrugated Metal Pipe
CMPA Corrugated Metal Pipe - Arched
CMU Concrete Masonry Unit
CO Carbon Monoxide
CO2 Carbon Dioxide
COL Column
Comb Combination
Compr Compressor
CONC Concrete
CONSTR Construction
Cont Continuous; Continued
Corr Corrugated
CP Chrome Plated
CPE Chlorinated Polyethylene
Cplg. Coupling
CPM Cycles per Minute
CPM Critical Path Method
CPS Centipoise
CPRSR Compressor
CPVC Chlorinated Polyvinyl Chloride
CS Carbon Steel
CSF Hundred Square Feet
CSPE ChloroSulphinated Polyethylene
CSS Cast Semi Steel
CT Current Transformer
CTB Cement Treated Base
CTR Center
CU FT Cubic Foot
CU IN Cubic Inch
CU YD Cubic Yard
CW Chilled Water; Cold Water
CWR Chilled Water Return
CWS Chilled Water Supply
CWT Hundred Weight
CY Cubic Yard (27 cu. ft.); Cycle
CYH Cubic Yards Per Hour
Cyl Cylinder
d Penny (nail size)
D Deep; Depth; Discharge
Dis. Discharge
Disch. Discharge

DB Dry Bulb; Decibel
DBL Double
DC Direct Current
DCS Distributed Control System
DDC Direct Digital Control
Demob Demobilization
DF Douglas Fir
DFT Dry Film Thickness
DH Double Hung
DHW Domestic Hot Water
DI Ductile Iron
D/P Differential Pressure
DIA Diameter
Diam Diameter
Diag. Diagonal
Distrib. Distribution
DL Dead Load; Diesel
DLH Deep Long Span Bar Joist
DPST Double Pole, Single Throw
DS Double Strength
DSA Double Strength A Quality Glass
DSB Double Strength B Quality Glass
DWV Drain, Waste, Vent Piping
DX Deluxe White, Direct Expansion
dyn Dyne
e Eccentricity
E Electrical Grade (Fiberglass Construction)
EA Each
Econ. Economy
ECR Electrical Grade, Corrosion Resistant
(Fiberglass Construction)
EDP Electronic Data Processing
EDR Equiv. Direct Radiation
EG Electro Galvanized
EIFS Exterior Insulation Finish System
ELEC Electric; Electrical
Elev. Elevator; Elevating
EM Electron Microscopy
EMT Electric Metallic Tubing; Thin Wall Conduit
Eng. Engine, Engineered
EPDM Ethylene Propylene Diene Monomer
EPS Expanded Polystyrene
EQL Equally
Equip. Equipment
ERW Electrical Resistance Welded
EROPS Enclosed Roll Over Protection System
ES Energy Saver
Est. Estimated
EW Each Way
EWT Entering Water Temperature

Excav. Excavation
EXH Exhaust
Exp. Expansion; Exposure
EXP JT Expansion Joint
Ext. Exterior
F Fahrenheit; Female; Fill
f Fiber stress
fc Compressive Stress in Concrete
fy Minimum Yield Stress of Steel
f'm Compressive Strength of Masonry
F&D Flanged-and-Dished
F&I Furnished and Installed
Fab. Fabricated
FAD Free Air Delivery
FBGS Fiberglass
FC Footcandles
FCXP Fan Cooled Explosion Proof
FDA Food and Drug Administration
FEP Fluorinated Ethylene Propylene (Teflon)
FF Flat Face
Fig. Figure
Fin. Finished
FL Full Load
FLDG Folding
Fl. Oz. Fluid Ounces
Flr. Floor
FM Frequency Modulation;
Factory Mutual
Frmg. Framing
Fndtn. Foundation
FT Foot, Feet
FTNG(S) Fitting(s)
FLG Flange
FOB Freight on Board
Fount. Fountain
FPM Feet Per Minute
FPS Feet Per Second
FPT Female Pipe Thread
FRP Fiberglass Reinforced Plastic
FS Forged Steel
FSC Cast Body, Cast Switch Box
Ftg. Footing
Ft. Lb. Foot Pound
Furn. Furniture
FVNR Full Voltage Non-Reversing
FXM Female by Male
G Gravity
g Gram
GA Gauge or Gage
G & A General and Administrative

GAL Gallon
Gal./Min. Gallon per Minute
GALV Galvanized
GBSD Gear Box Sheave Diameter
Gen. General
GFCI Ground Fault Circuit Interrupter
GFR Ground Fault Relay
GPD Gallons per Day
GPH Gallon per Hour
GPM Gallon per Minute
GR Grade
Grnd. Ground
GSF Ground Square Foot
GVW Gross Vehicle Weight
H High, Height; High Strength Bar Joist
HC Handicapped; High Capacity
HD High Density; Heavy Duty
HDO High Density Overlay
HDPE High Density Polyethylene
Hdr. Header
Hdw. Hardware
HEPA High Efficiency Particulate Air
Hg Mercury
HIC High Interrupting Capacity
HM Hollow Metal
HNDL Handle
HO High Output; Heel Outlet
Horiz. Horizontal
HP High Pressure;Horse Power
HPF High Pressure Factor
HPL High Pressure Laminate
HR Hour
HRS Hot-Rolled Steel
HS High Speed; High Strength
HSC High Short Circuit
HSLA High Strength Low Alloy
HT Hospital Tips; Height
Htg. Heating
Htrs. Heaters
HVAC Heating, Ventilating & Air Conditioning
Hvy. Heavy
HW Hot Water
HWR Hot Water Return
HWS Hot Water Supply
HWT Hundred Carton Weight
Hyd. Hydraulic
Hydr. Hydraulic
HZ Hertz (cycles)
I Moment of Inertia
IC Interrupt Capacity

ICFM Inlet Cubic Feet per Minute
ID Inside Diameter
I.D. Identification; Inside Dimension
IF Inside Frosted
IMC Intermediate Metal Conduit
IN Inch
IN LB Inch Pound
IN WC Inches Water Column
Incan. Incandescent
Incl. Include, Including
Inst. Install, Installation
Insul. Insulation, Insulated
Int. Interior
INTSCT Intersect
IP Iron Pipe
IPS International Pipe Standard
Iron Pipe Size
Inches per Second
IPT Iron Pipe Threaded
ISP Inlet Steam Pressure
IW Indirect Waste
J Joule
JOB Job
JOC Job Order Contracting
JT Joint
K Thousand; Thousand Pounds;
Heavy Wall Copper Tubing; Kelvin
KAH Thousand Amp Hours
KD Kiln Dried; Knocked Down
KDAT Kiln Dried After Treatment
Kip 1000 Pounds
KO Knockout
Km Kilometer
KLF Kips per Linear Foot
KSF Kips per Square Foot
KSI Kips per Square Inch
kA KiloAmp
kg Kilogram
kHz Kilohertz
kJ Kilojoule
kV Kilovolt
kVA Kilovolt Ampere (1,000 volt amps)
KVAR Kilovar (Reactance)
kW Kilowatt
kWh Kilowatt Hour
L Length; Long;
Medium Wall Copper Tubing
L&E Labor and Equipment
LAB Labor
LAN Lane

LAT Latitude
LAV Lavatory
L.B. Load Bearing; L Conduit Body
LB Pound (Force or Mass)
LB/HR Pounds per Hour
LBS Pounds
LBSF Pounds per Square Foot
LCD Liquid Crystal Display
LCL Less Than Carload Lot
LCY Loose Cubic Yard
LE Leading Edge; Lead Equivalent
LED Light Emitting Diode
LEL Lower Explosive Limit
LF Linear Foot
LFD Linear Feet Per Day
LFTL Lineal Feet Tube Length
Lge. Large; Long
LH Labor Hours; Long Span Bar Joist
LIN Linear
LL Live Load
LLD Lamp Lumen Depreciation
LNG Liquid Natural Gas
LOA Length Over All
L-O-L Lateraloleit
LP(G) Liquid Propane (Gas)
LS Low Speed; Lump Sum
Lt Light
Lt Ga Light Gauge
LTL Less than Truck Load
Lt Wt Light Weight
LV Low Voltage
lm Lumen
lm/sf Lumen per square foot
lm/W Lumen per Watt
m Meter
m³/H Cubic Meters per Hour
mA Milliampere
m/S Meters per Second
M Thousand; Male;
Light Wall Copper Tubing
MATL Material
MAX Maximum
Mach Machine
Mag. Str. Magnetic Starter
Maint. Maintenance
Mat Material
Mat'l; Material
Max. Maximum
Mb Million Bytes (characters)
MBF Thousand Board Feet

MBH Thousand BTU per Hour
MBtu Thousand British Thermal Units
MC Metal Clad Cable
MCF Thousand Cubic Feet
MCM Thousand Circular Mills
MCP Motor Circuit Protector
MD Medium Duty
MDO Medium Density Overlaid
Med. Medium
MF Thousand Feet
MF3 Thousand Cubic Feet
Mfg. Manufacturing
Mfrs. Manufacturers
Mg Milligram
MG Market Grade
MGD Million Gallons per Day
MGPH Thousand Gallons per Hour
MH Manhole; Manhour; Metal Halide
MHz MegaHertz
Mi Mile
MI Malleable Iron; Mineral Insulated
MIN Minimum; Minute
MISC Miscellaneous
ml Milliliter; Mainline
MLF Thousand Linear Feet
mm Millimeter
MO Month
Mobil. Mobilization
Mog. Mogul Base
MPH Miles Per Hour
MPT Male Pipe Thread
MRT Mile Round Trip
ms Millisecond
MSD Motor Sheave Diameter
MSF Thousand Square Feet
MSY Thousand Square Yards
MT Mount
MTD Mounted
MTG Mounting
MTR Mill Test Report
MVA Million Volt Ampere
MVAR Million Volt Amperes Reactance
MV Megavolt
MW Megawatt
MXM Male by Male
MYD Thousand Yards
N Natural; North
nA Nanoampere
NA Not Applicable
NC Normally Closed

NEHB Bolted Circuit Breaker to 600V
NDT Non Destructive Testing
NIOSH National Alloy
NLB Non-Load Bearing
NM Non-Metallic Cable
nm Nanometer
NO Normally Open
No. Number
NOM Nominal
NQOD Combination Plug-on/Bolt-on Circuit
Breaker to 240V
NRC Noise Reduction Coefficient
NPT National Pipe Thread
NPS Nominal Pipe Size
NRP Non-Removable Pins
NRS Non-Rising Stem
ns Nanosecond
NTE Note
NTP National Taper Pipe (Thread)
nW Nanowatt
OAL Overall Length
OB Opposing Blade
OC On Center
OD Outside Diameter
O.D. Outside Dimension
ODP Open Drip Roof
ODS Overhead Distribution System
OEM Original Equipment Manufacturer
OG Ogee
OH Overhead
OH&P Overhead and Profit
OHL Over Hung Load
Oper. Operator
Opng. Opening
OPR Operating
Orna. Ornamental
OSA Outside Air
OSB Oriented Strand Board
OS & Y Outside Screw and Yoke
OUT Outlet or Output (each)
Ovhd. Overhead
OWG Oil, Water or Gas
OWSJ Open Web Steel Joist
OZ Ounce
P Pole; Applied Load; Projection
p Page
pp Pages
PAPR Powered Air Purifying Respirator
PAR Weatherproof Reflector
PB Push Button

PC Personal Computer; Piece;
PCs Pieces
P.C. Portland Cement; Power Connector
PCF Pounds per Cubic Foot
PCM Phase Contrast Microscopy
PE Professional Engineer; Plain End
Porcelain Enamel; Polyethylene;
PERF Perforated
PH Phase
PI Pressure Injected
PID Programmable Integral Derivative Controller
PKG Package
PL Plate
PLC Programmable Loop Controller
PLM Polarized Light Microscopy
PLTC Power Limited Tray Cable
PLY Plywood
PNEU Pneumatic
PNTD Painted
POA Priced On Application/Priced On Approval
PESB Pre-engineered Steel Building
PPD Pounds Per Day
PP; PPL Polypropylene
PPM Parts Per Million
PPS Polyphenylene Sulfide
PR Pair
Prefab. Prefabricated
Prefin. Prefinished
PROGEN® Proposal Generator Software for
Job Order Contracting
PROP Propelled; Propeller
PSF Pounds Per Square Foot
PSI Pounds Per Square Inch
PSIA Pounds Per Square Inch Atmosphere
PSIG Pounds Per Square Inch Gauge
PSP Plastic Sewer Pipe
PT Power or Potential Transformer
Pt. Pint
Ptns. Partitions
P&T Pressure & Temperature
PTFE Polytetrafluoroethylene
Pu Ultimate Load
PV Photovoltaic
PVA Polyvinyl Acrylate
PVC Polyvinyl Chloride
PVDC Polyvinylidene Chloride
PVDF Polyvinylidene Fluoride
PVF Polyvinyl Fluoride
Pvmt. Pavement
PVQ Pressure Vessel Quality

Pwr. Power
Q Quantity Heat Flow
QA Quality Assurance
QC Quality Control; Quick Coupling
QT Quart
Quan. Quantity
Qty. Quantity
R Thermal Resistance
R/L Random Lengths
R/W/L Random Widths and Lengths
RA Return Air; Registered Architect
RCP Reinforced Concrete Pipe
Rect. Rectangle
REINF Reinforced/Reinforcing
Req'd Required
RF Raised Face
RGH Rough
RGS Rigid Galvanized Steel
RH Relative Humidity
RHW Rubber, Heat & Water Resistant;
Residential Hot Water
rms Root Mean Square
RND Round
ROL Roll (each)
ROM Room
ROPS Roll Over Protection System
ROW Row
R.O.W. Right of Way
RPM Revolutions Per Minute
RR Direct Burial Feeder Conduit
RS Rapid Start
RSC Rigid Steel Conduit
RSR Riser (Per Rise)
RT Round Trip
RTD Resistance Temperature Detector
RTJ Ring Type Joint
RTRP Reinforced Thermoset Resin Piping
RVT Reinforced Vinyl Tile
S Suction; Single Entrance; South
S1S2E Surfaced 1 side, 2 Edges
S2S Surfaced 2 Sides
S4S Surfaced 4 Sides
Sa Sack
SA Supply Air
SBS Styrene Butyl Styrene
Scaf. Scaffolding
SCFH Standard Cubic Foot Per Hour
SCFM Standard Cubic Foot per Minute
SCH Schedule
SCR Modular Brick

SCRD Screwed
SD Sound Deadening
SDR Standard Dimension Brick;
Size To Diameter Ratio
SE Surfaced Edge; Semi-Elliptical
SEA Seat
SER Service Entrance Cable
SEU Service Entrance Cable
SET Set
SF Square Foot/Feet
SFCA Square Feet of Form in Contact with
Concrete
SHTS Sheets
SI Square Inch
SIS Synthetic Heat-Resistant
SLDR Solder
SLH Super Long Span Bar Joist
SN Solid Neutral
S-O-L Socketolet
SP Self-Propelled; Single Pole;
Space; Standpipe
Static Pressure (measured in inches of
water);
SPDT Single Pole, Double Throw
SPGR Specific Gravity
SPWG Static Pressure Water Gauge
SQ Square;
Hundred Square Feet (10' x 10' area)
SQ FT Square Foot/Square Feet
SQ IN Square Inch
SQ YD Square Yard
SS Stainless Steel; Single Strength
SSB Single Strength B Quality Glass
SSL Self Sealing Lap
STC Sound Transmission Class
STD Standard
STK Select Tight Knot
STP Stop (each);
Standard Temperature & Pressure
SURF Surface
STL Steel
SURF Surface
SW Seam Weld
SW Switch
SWBD Switchboard
SWS Segmentally Welded Steel
SWSI Single Width, Single Inlet
SY Square Yard
SYN Synthetic
SYP Southern Yellow Pine

SYS System
T Thick; Temperature; Ton
T&C Threaded and Coupled
T&G Tongue and Groove
TBC Tensile Bolt Cloth
TBE Threaded Both Ends
TC Terra Cotta
TDS Total Dissolved Solids
TEAO Totally Enclosed Air Over
TEFC Totally Enclosed Fan Cooled
TETC Totally Enclosed Tube Cooled
TFE Tetrafluoroethylene (Teflon)
THHN Nylon Jacketed Wire
THK Thick
THKNS Thickness
THW Insulated Strand Wire
THWN Nylon Jacketed Wire
TI Titanium
TL Truckload
TM Track Mounted
T-O-L Threadolet
TON Ton
Tot. Total
TPH Tons Per Hour
Transf. Transformer
TSHP Total Shaft Horse Power
T'STAT Thermostat
TV Television
TW Thermoplastic Water Resistant Wire
UA Unequal Angle
UCI Uniform Construction Index
UF Underground Feeder
UHF Ultra High Frequency
UI United Inch
UNC Unified Coarse (Threads)
USP United States Primed
UTP Unshielded Twisted Pair
UV Under Voltage
V Volt
VA Volt Amperes
VAV Variable Air Volume
VCT Vinyl Composition Tile
Vert. Vertical
VF Vinyl Faced
VHF Very High Frequency
VLF Vertical Linear Foot
VLV Valve
Vol. Volume
VRP Vinyl Reinforced Polyester
w/ With

W Watt; Width; Wire; West
WB Wet Bulb
WC Water Column; Water Closet
WF Wide Flange
WG Water Gauge
WHM Watthour Meter
WK Week
Wldg. Welding
WOG Water, Oil, Gas
W-O-L Weldolet
WP Weather Protected
WR Water Resistant
WSP Water, Steam, Petroleum
WT Weight
WWF Welded Wire Fabric
X or x By or Times
XFER Transfer
XFMR Transformer
XHD Extra Heavy Duty
XHHW; XLPE Cross-Linked Polyethylene Wire
Insulation
XLP Cross-Linked Polyethylene
XP Explosion Proof
Y Wye
YD Yard
YR Year

2. Symbols

Δ Delta / per-through or to
@ at
% per 100 or percent
\$ U.S. dollars
~ Approximate
Ø Phase
' feet
" inches
pound or number
° degree
< Less Than
> Greater Than

3. Explanation of Terms

BTU: Stands for British Thermal Unit. The BTU number indicates the amount of heat required to raise one pound of water by one degree Fahrenheit. What this means is the higher the BTU rating, the higher the heating capacity of a product.

MBH: Equal to 1000 BTUs. Tons (In Reference To Cooling): Unit of measurement for determining cooling capacity. One ton equals 12,000 BTUH.

SEER: Stands for Seasonal Energy Efficiency Ratio. This measures the cooling efficiency in air conditioners or heat pumps. The higher the SEER rating, the more energy-efficient the unit. The government's minimum SEER rating is 10.

4. Calculation Of Board Feet
 - a. All Lumber Grades Are Presumed To Be 75 Percent Construction And 25 Percent Standard Or Equivalent Grade Unless Otherwise Listed. Dimensions Are Nominal. Board Foot Is Defined As 1" x 12" x 1' Long; To Calculate BF/LF, Multiply The Size Of The Board Height x Width/12.
 - 1) 1"x2" = 0.167 BF/LF
 - 2) 1"x3" = 0.25 BF/LF
 - 3) 2"x3" = 0.5 BF/LF
 - 4) 2"x4" = 0.667 BF/LF
 - 5) 2"x6" = 1.0 BF/LF
 - 6) 2"x8" = 1.333 BF/LF
 - 7) 2"x10" = 1.667 BF/LF
 - 8) 2"x12" = 2.0 BF/LF
 - 9) 4"x4" = 1.333 BF/LF
 - 10) 6"x4" = 2.0 BF/LF
 - 11) 6"x6" = 3.0 BF/LF
 - 12) 8"x8" = 5.333 BF/LF
 - 13) etc.
 - b. To Calculate Board Feet;
 - 1) For most lumber: Thickness (inches) x width (inches) x length (feet) divided by 12 = board feet.
 - 2) For small pieces: Thickness (inches) x width (inches) x length (inches) divided by 144 = board feet.

2.1 PRODUCTS (Not Used)

3.1 EXECUTION (Not Used)

END OF SECTION 01320c

SECTION 01330

SUBMITTALS

1.1 GENERAL

A. SUMMARY

1. Definitions:
 - a. Submittals: General term including samples, shop drawings and product data, as applicable.
 - b. Shop drawings: Drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
 - c. Product data: Illustrations, stand schedules, performance charts, instruction, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the work.
 - d. Samples: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
2. Shop Drawings, product data, samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.
3. General Provisions:
 - a. Provisions in this section are mandatory procedures for preparing and submitting samples, shop drawings and product data
 - b. Submittals shall be in orderly sequence and times to cause no delay in the Work.
 - c. Job delays occasioned by requirement of resubmission of samples, shop drawings, and product data not in accord with Contract Documents are Contractor's responsibility and will not be considered valid justification for extension of Contract time.
 - d. Commence no portion of work requiring submittals until submittal has been approved and stamped by Architect.
4. Informational Submittals: (FIO - Submittals required to be submitted "For Architect's Information Only") FIO are required to demonstrate that Work complies with performance requirements of Contract Documents.
 - a. Calculations, certifications and test reports are submitted for record purposes and Architect's information only and will not be approved by Architect.
 - 1) Include calculations and required information if not completely covered by load tables and products data.
 - b. Information Submittals, if acceptable to Architect, will not be returned to Contractor.

c. Submittals may be rejected for not complying with requirements.

B. SUBMITTAL SCHEDULE:

1. At least five (5) days prior to date of pre-construction conference, submit a list of all required submittals, by specification section. Indicate timing for submission of required submittals and relation to construction sequence.
2. During course of the Work, maintain an updated submittal schedule showing status of all submittals. Provide copies for Architect's information at project meetings and at other times when requested.

C. SAMPLE PREPARATION:

1. Prepare samples in sizes, shapes and finishes in accord with provision of individual specification sections.
2. Samples submitted for color, sheen or texture selection for approval shall be actual samples of the required material. Where a range of color, sheen or texture is anticipated or proposed, samples shall indicate full range proposed, from which Architect may select the exact range to be provided.
3. Samples furnished under this section are not to be confused with full size, on-the-site "mock-ups" or "sample panels" called for in some specification sections.
4. The number of samples submitted shall be the number required by Contractor, plus one which will be retained by Architect, unless otherwise indicated.
5. Attach a tag to each sample, sized to accept Contractor's and Architect's stamps. Samples submitted to Architect shall have tag stamped with Contractor's stamp and appropriate action shall be indicated thereon.

D. SHOP DRAWING PREPARATION:

1. Drawings shall conform to the following requirements:
 - a. Number drawings consecutively
 - b. Indicate working and erection dimensions and relationships to adjacent work
 - c. Show arrangements and sectional views, where applicable.
 - d. Indicate material, gauges, thicknesses, finishes and characteristics
 - e. Indicate anchoring and fastening details, including information for making connections to adjacent work
 - f. Contract documents prepared by the Architect and his consultants will not be acceptable as shop drawing submittals
2. Form: Submit three blue and black line bond prints of shop drawings.

E. PRODUCT DATA PREPARATION:

1. Include product manufacturer's standard printed material, dated, with product description and installation instructions indicated. Product data may also contain test and performance data, illustrations and special details.

2. Form: Number of copies submitted shall be the number require by Contractor, plus two which will be retained by Architect.
3. Identify each product data item with specification section and paragraph number. Data not related to this project shall be deleted from manufacturer's standard product data.

F. INFORMATIONAL SUBMITTALS (FIO):

1. General: prepare and submit Informational submittals require by other Specification Sections.
 - a. Number of Copies: Submit three (3) copies of each submittal, unless otherwise indicated. Architect will not return copies.
 - b. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - c. Test and Inspection Reports: Test and inspection reports shall be signed by the individual responsible for conducting the test and/or inspection.
2. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of Architects and Owners, and other information specified.
3. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
4. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specifications (WPS) and Procedure Qualification Record (PDQ) on AWS forms. Include names of firms and personnel certified.
5. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements, and where required, is authorized for this specific Project.
6. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that Manufacturer complies with requirements. Include evidence of manufacturing experience where required.
7. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements
8. Material Test Reports: Prepare reports written by qualified testing agency, on agency's standard form, indicating and interpreting test results of material for compliance with requirements.
9. Preconstruction Test Reports: Prepare reports written by qualified testing agency, on agency's standard form, indicating and interpreting test results of tests performed prior to, for compliance with performance requirements.
10. Compatibility Test Reports: Prepare reports written by qualified testing agency, on agency's standard form, indicating and interpreting test results of compatibility tests performed prior to installation of

- product. Include written recommendations for primers and substrate preparation needed for adhesion.
11. Field Test Reports: Prepare reports written by qualified testing agency, on agency's standard form, 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.
 12. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of test performed by manufacturer and witnessed by qualified testing agency, or on comprehensive tests performed by qualified testing agency,
 13. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following:
 - a. Name of evaluation organization'
 - b. Date of evaluation
 - c. Time period when report is in effect
 - d. Product and manufacturer's names
 - e. Description of product
 - f. Test procedures and results
 - g. Limitations of use
 14. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Closeout Submittals Section.
 15. Design Data: Prepare written and graphic information, including but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
 16. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
 - a. Preparation of substrates
 - b. Required substrate tolerances
 - c. Sequence of installation or erection
 - d. Required installation tolerances
 - e. Required adjustments
 - f. Recommendation for cleaning and protection
 17. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
 - a. Name, address, and telephone number of factory-authorized service representative making report

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- b. Statement on condition of substrates and their acceptability for installation of product
 - c. Statement that products at Project site comply with requirements.
 - d. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken
 - e. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - f. Statement whether conditions, products, and installation will affect warranty
 - g. Other required items indicated in individual Specification Sections.
18. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- G. CONTRACTOR'S REVIEW:
1. Review for compliance with the Contract Documents, stamp with approval and submit to the Architect drawings, product data, samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals not marked as reviewed for compliance with the Contract Documents or which are not required by the Contract Documents may be returned by the Architect without action.
 2. By approving and submitting submittals, Contractor represents that he has determined and verified materials, field measurements, and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
 3. The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of shop drawings, product data, samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and the Architect has given written approval to the specific deviation.
 4. The Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product data, samples or similar submittals, to revisions other than those requested by the Architect on previous submittals.
 5. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.
 6. Where work is indicate "By Others" Contractor shall indicate responsibility for providing and coordinating such work, whether by Subcontractors or under separate contracts.

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7. Contractor agrees that submittals processed by Architect are not Construction Change Directives or Change Orders; that purpose of submittals by Contractor is to demonstrate that Contractor understands design concept; that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing fabrication and installation methods he intends to use.
 8. Contractor represents by submitting samples, shop drawings and product data that he has complied with provision herein specified. Submissions made without Contractor's approval indicated thereon will be returned without being reviewed for compliance with this requirement.
 9. Date each submittal and indicate name of Project, Architect, Contractor, Subcontractor, as applicable, description or name of equipment, material or product, and identify location at which it is to be used in the Work.
 10. Accompany submittal with transmittal letter containing project name, Contractor's name, number of samples or drawings, titles and other pertinent data. Transmittal shall outline deviations, if any, in submittals from requirements of Contract Documents.
 11. Perform no portion of the Work requiring submittal and review of submittals until the respective submittal has been approved and stamped by the Architect. Such work shall be in accord with submittals bearing the Architect's stamp.
- H. ARCHITECT'S REVIEW AND APPROVAL:
1. Architect will review each submittal, mark it with appropriate action, and return it to Contractor with reasonable promptness, except where it must be held for coordination and the Contractor is so advised. Submittals will be marked by Architect as follows:
 - a. "Approved" indicates the submittal has been reviewed for conformance with design and no exceptions are taken. Proceed with the work.
 - b. "Approved as Noted" indicates Contractor may proceed with the work as noted. All submittals must be "Approved" or "Approved as Noted" before issued for field use.
 - c. "Revise and Resubmit" or "Not Approved" indicates submittal to be revised and resubmitted for review prior to proceeding with the work or that submittal does not comply with Contract Documents.
 2. Architect's review, approval or other appropriate action is only for checking for conformance with information given and the design concept expressed in the Contract Documents. Architect's approval of a specific item shall not indicate approval of an assembly in which the item is a component.
 3. Architect's review of Contractor's submittals shall not be relieve Contractor of responsibility for deviation from requirements of the Contract Documents unless Contractor has informed the Architect in writing of such deviation at the time of submission and Architect to the

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specific deviation. Architect’s review shall not relieve Contractor from responsibility for errors or omissions in submittals.

4. Submittals required to be submitted “For Architect’s Information Only” (FOI) are required to demonstrate that the Work complies with performance requirements of the Contract Documents. Such submittals, if acceptable to Architect, will not be returned to Contractor.
5. Architect will return one reproducible copy of reviewed shop drawings for printing and distribution by Contractor.

I. RESUBMISSION:

1. Make corrections and changes indicated for unapproved submittals, and resubmit in same manner as specified above until Architect’s approval is obtained.
2. On re-submittal transmittal, direct specific attention to revisions other than corrections requested by Architect on previous submittals, if any.

J. DISTRIBUTION:

1. Contractor is responsible for obtaining and distributing copies of submittals to his subcontractors and material suppliers after, as well as before, final approval. Prints of reviewed shop drawings shall be made from transparencies which carry the Architect’s appropriate stamp.
2. For duration of project, Contractor shall maintain a file of approved submittals which shall be delivered to Owner as a part of project closeout documents.

2.1 PRODUCTS (NOT USED)

3.1 EXECUTION (NOT USED)

END OF SECTION 01330

SECTION 01520

TEMPORARY FACILITIES AND CONTROLS

1.1 GENERAL

A. Summary

1. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Definitions

1. Permanent Enclosure: As determined by the Owner, permanent or temporary roofing is complete, insulated, and weather tight; exterior walls are insulated and weather tight; and all openings are closed with permanent construction or substantial temporary closures.

C. Use Charges

1. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, the Owner, occupants of Project, testing agencies, and City, State and National authorities having jurisdiction.
2. Water Service: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
3. Electric Power Service: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

D. Submittals

1. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

E. Quality Assurance

1. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
2. Tests and Inspections: Arrange for City, State and National codes having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

F. Project Conditions

1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

2.1 PRODUCTS**A. Materials**

1. Pavement: Comply with Division 02 Section(s) "Asphalt Paving".
2. Chain-Link Fencing: Minimum 2-inch thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top rails.
3. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch-(60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-

B. Temporary Facilities

1. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
2. Common-Use Field Office: Of sufficient size to accommodate needs of construction personnel. Keep office clean and orderly. Furnish and equip offices as follows:
 - a. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
 - b. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with not less than 1 receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- (1.2-m-) square tack board.
 - c. Drinking water and private toilet.
 - d. Coffee machine and supplies.
 - e. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
 - f. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.
3. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 - a. Store combustible materials apart from building.

C. Equipment

1. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- 2.. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return air grille in system and remove at end of construction.

3.1 EXECUTION

- A. Installation, General
 - 1. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 2. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

- B. Temporary Utility Installation
 - 1. General: Install temporary service or connect to existing service.
 - a. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 - a. Connect temporary sewers to municipal system as directed by City, State and National codes having jurisdiction.
 - 3. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
 - a. Where installations below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.
 - 4. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with City, State and National authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 - a. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
 - 5. Heating and Cooling, Provide temporary heating and cooling, required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
 - 6. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
 - 7. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.
 - a. Install electric power service overhead unless otherwise indicated.

- b. Connect temporary service to Owner's existing power source, as directed by Owner.
 8. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - a. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
 - b. Install lighting for Project identification sign
 9. Electronic Communication Service: Provide temporary electronic communication service, including electronic mail, in common-use facilities.
- C. Support Facilities Installation
 1. General: Comply with the following:
 - a. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
 2. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.
 - a. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
 3. Traffic Controls: Comply with requirements of City, State and National authorities having jurisdiction.
 - a. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - b. Maintain access for fire-fighting equipment and access to fire hydrants.
 4. Parking: No use of Owner's existing, parking areas for construction personnel is available.
 5. Project Identification and Temporary Signs: Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 - b. Maintain and touchup signs so they are legible at all times.
 6. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of City, State and National authorities having jurisdiction. Comply with General Requirements for progress cleaning requirements.
 7. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - a. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
 8. Temporary Elevator Use: Refer to Division 14 for temporary use of new elevators.
 9. Existing Elevator Use: Use of Owner's existing elevators will be permitted, as long as elevators are cleaned and maintained in a

condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.

- a. Do not load elevators beyond their rated weight capacity.
- b. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

10. Existing Stair Usage: Use of Owner's existing stairs will be permitted, as long as stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
 - a. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If, despite such protection, stairs become damaged, restore damaged areas so no evidence remains of correction work.
11. Temporary Use of Permanent Stairs: Cover finished, permanent stairs with protective covering so finishes will be undamaged at time of acceptance.

D. Security and Protection Facilities Installation

1. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
2. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of City, State and National authorities having jurisdiction.
 - a. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Stormwater Control: Comply with City, State and National authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
4. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
5. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

6. Site Enclosure Fence: Before construction operations begin furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
 - a. Extent of Fence: As required to enclose portion of site determined sufficient to accommodate construction operations.
 - b. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Provide Owner with one set of keys.
7. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
8. Barricades, Warning Signs, and Lights: Comply with requirements of City, State and National authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
9. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather tight enclosure for building exterior.
 - a. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.
10. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner and tenants from fumes and noise.
 - a. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
 - b. If containment of airborne particles and dust generated by construction activities is critical to occupants of other spaces in building, e.g., occupied healthcare facilities: Construct dustproof partitions with 2 layers of 3-mil (0.07-mm) polyethylene sheet on each side. Cover floor with 2 layers of 3-mil (0.07-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant plywood.
 - 1) Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
 - c. Insulate partitions to provide noise protection to occupied areas.
 - d. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 - e. Protect air-handling equipment.
 - f. Weather strip openings.
 - g. Provide walk-off mats at each entrance through temporary partition.
11. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
 - a. Prohibit smoking in construction, areas.

- b. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of City, State and National authorities having jurisdiction.
 - c. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 - d. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.
 - e. Provide fire extinguishers in accordance with City, State and National requirements.
- E. Operation, Termination, and Removal
1. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
 2. Maintenance: Maintain facilities in good operating condition until removal.
 - a. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 3. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.
 4. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
 5. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - a. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - b. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by City, State and National authorities having jurisdiction.

Section – 01520 – Temporary Facilities and Controls

- c. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in General Requirements

END OF SECTION 01520

SECTION 01710

SELECTIVE DEMOLITION

1.1 GENERAL

A. Description of Work

1. This specification covers the furnishing and installation of materials for selective demolition. Products shall be as follows or as directed by the Owner. Installation procedures shall be in accordance with the product manufacturer's recommendations. Demolition and removal of materials shall be as required to support the work.

B. Summary

1. This Section includes the following:
 - a. Demolition and removal of selected portions of building or structure.
 - b. Salvage of existing items to be reused or recycled.
 - d. Asbestos abatement and encapsulation.
 - e. Lead paint abatement and encapsulation.

C. Definitions

1. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
2. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse, as directed.
3. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
4. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

D. Materials Ownership

1. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.
 - a. Coordinate with the Owner who will establish special procedures for removal and salvage.

E. Submittals

1. Qualification Data: For demolition firm, professional engineer, refrigerant recovery technician, as directed.
2. Schedule of Selective Demolition Activities: Indicate the following:

Section – 01710 – Selective Demolition

- a. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
 - b. Interruption of utility services. Indicate how long utility services will be interrupted.
 - c. Coordination for shutoff, capping, and continuation of utility services.
 - d. Use of elevator and stairs.
 - e. Locations of proposed dust and noise-control temporary partitions.
 - f. Means of protection for items to remain and items in path of waste removal from building.
3. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.
 4. Pre-demolition Photographs or Videotapes: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.
 5. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
 - a. Comply with submittal requirements in Division 01 Section "Construction Waste Management".
- F. Quality Assurance
1. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
 2. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
 3. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
 4. Standards: Comply with ANSI A10.6 and NFPA 241.
 5. Pre-demolition Conference: Conduct conference at Project site. Review methods and procedures related to selective demolition including, but not limited to, the following:
 - a. Inspect and discuss condition of construction to be selectively demolished.
 - b. Review structural load limitations of existing structure.
 - c. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - d. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - e. Review areas where existing construction is to remain and requires protection.
- G. Project Conditions
1. Owner will not vacate the building before demolition begins.

Section – 01710 – Selective Demolition

2. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - a. Before selective demolition, Owner will indicate items to be salvaged.
3. Notify the Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
4. Hazardous Materials are present in construction and are to be selectively demolished.
5. A report on the presence of hazardous materials by Raymond Engineering dated August 6, 2013, Project No. 1329.001 is part of this contract and is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
6. Storage or sale of removed items or materials on-site is not permitted.
7. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

H. Warranty

1. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

2.1 PRODUCTS (Not Used)

3.1 EXECUTION

A. Utility Services and Mechanical/Electrical Systems

1. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
2. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - a. the Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - b. Arrange to shut off indicated utilities with utility companies.
 - c. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - d. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
 - 1) Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.

Section – 01710 – Selective Demolition

- B. Preparation
1. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 2. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - a. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - b. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - c. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - d. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - e. Comply with requirements for temporary enclosures, dust control, heating, and cooling.
 3. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - a. Strengthen or add new supports when required during progress of selective demolition.
- C. Selective Demolition, General
1. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - a. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - b. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - c. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - d. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space

- before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - e. Maintain adequate ventilation when using cutting torches.
 - f. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - g. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - h. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - i. Dispose of demolished items and materials promptly. Comply with requirements in Division 01 Section "Construction Waste Management".
2. Reuse of Building Elements: Project has been designed to result in end-of-Project rates for reuse of building elements as follows. Do not demolish building elements beyond what is indicated on Drawings without the Owner's approval.
 3. Removed and Salvaged Items:
 - a. Clean salvaged items.
 - b. Pack or crate items after cleaning. Identify contents of containers.
 - c. Store items in a secure area until delivery to Owner.
 - d. Transport items to Owner's storage area designated by Owner as directed.
 - e. Protect items from damage during transport and storage.
 4. Removed and Reinstalled Items:
 - a. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 - b. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - c. Protect items from damage during transport and storage.
 - d. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
 5. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Owner, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
- D. Selective Demolition Procedures for Specific Materials
1. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.

Section – 01710 – Selective Demolition

2. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
3. Rigid Insulation: Remove insulation and insulation adhesive according to recommendations of insulation manufacturer.
4. Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

E. Disposal of Demolished Materials

1. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - a. Do not allow demolished materials to accumulate on-site.
 - b. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - c. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - d. Comply with requirements specified in Division 01 Section "Construction Waste Management".
2. Burning: Do not burn demolished materials.
3. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01710

SECTION 07081

FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 SCOPE

- A. Contractor shall furnish all labor, materials, equipment and incidentals required to provide and install flashing and sheet metal as shown and as specified.
- B. Contract drawings show only functional features and some of the required external connections. They do not show all components required for a complete installation nor exact dimensions particular to any manufacturer's products. Contractor shall supply all parts, devices and equipment necessary to meet the requirements of the Contract Documents and shall make all dimensional adjustments particular to the products being furnished. All costs associated with such changes and adjustments shall be considered as being included in the price bid for the work shown and specified.
- C. Coordination
 - 1. Review installation procedures under other sections and coordinate the installation of items that must be installed with the roof insulation.
- D. Related Work specified elsewhere:
 - 1. Section 07540 – TPO Fully Adhered Roof Membrane System

1.2 SUBMITTALS

A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

- A. Product data: Indicate product description, finishes and installation instructions, including interface with adjacent materials and surfaces.
- B. Shop drawings:

1. Indicate material types, sizes, shapes, thicknesses, finishes, fabrication details, joint details, anchors, connections, expansion joints, and relations to adjacent work.
2. Draw details and profiles to quarter size scale.
3. Include on detailed shop drawings, locations of sleepers and required fastening strips to secure metal work where sheet metal is applied to other than wood surfaces.

C. Samples, submit as follows:

1. Special finishes: 6" x 6" samples of manufacturer's standard colors for Architect's color selection, including a clear coated mill finish sample.
2. Manufactured expansion joint covers, copings, gravel stops, flashing reglets, and other flashing items: 1'-0" length in style and finish specified.

D. Quality control submittals:

1. Certificates: Submit certificates indicating materials supplied or installed are asbestos free.
2. Provide a declaration that the VOC levels in all adhesives and sealants used in the installation of the products do not exceed the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168, AND all sealants used as fillers meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51.

1.3

QUALITY ASSURANCE

A. Reference Standards. Comply with all federal and state laws or ordinances, as well as all applicable codes, standards, regulations and/or regulatory agency requirements including the partial listing below:

1. American Iron and Steel Institute (AISI).
2. American Society for Testing and Materials (ASTM).
3. Sheet metal and Air Conditioning Contractors National Association, Inc. (SMACNA).

B. Industry Standards:

1. AISI: Stainless Steel Data Manual, 1968 Edition.
2. SMACNA: Architectural Sheet Metal Manual, latest Edition,.

C. Pre-installation conference:

1. Prior to beginning work, conference will be held to review work to be accomplished.
2. Particular requirements are specified in TPO section.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Acceptance at site: Handle materials to prevent damage to surfaces, edges and ends of sheet metal items. Reject and promptly remove damaged materials from site.
- B. Storage and protection: Store materials off ground, under cover. Protect from damage and deterioration.

1.5 SEQUENCING AND SCHEDULING

- A. Coordinate requirements of this section with work described under Manufactured Roof section. Use flat stock matching respective roofing for shop fabricated flashings, closures and accessories.

1.6 WARRANTY

- A. Warrant flashing and sheet metal work to be free of defects in materials and workmanship; combine warranty with roofing warranty.
- B. Provide a warranty against defective equipment and workmanship in accordance with the requirements of the General Conditions of the Contract Documents.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Match existing gravel stop and wall termination flashing in gauge and profile. See Drawing A-3.3.
- B. Sheet metal:
 1. General: Follow gauge, thickness, or weight requirements in SMACNA Manual for intended use, but not less than indicated below.
 2. Galvanized Sheet Steel, 24 gage. allow Standard Color Kynar.
- C. Soldering materials:
 1. Solder: Meeting ASTM 032-76, alloy grade 50A, 50% pig lead and 50% block tin.
 2. Solder flux for:
 - a. Stainless steel and copper: Muriatic acid neutralized with zinc.
 - b. Lead: Non-corrosive rosin.

- D. Fasteners: Same material or compatible with sheet metal being fastened: Nails: Flathead, needle point, not less than 12 gauge; sufficient length to penetrate substrate 1" minimum.
1. Expansion shields: Lead sleeves.
 2. Screws: Self-tapping type with round heads.
 3. Bolts: Furnished complete with nuts and washers.
 4. Rivets: Round head, solid shank.
 5. Blind clips and cleats: gage per manufactures recommendation.
- E Caulk: Recommended by Roofing Manufacturer

2.2 FABRICATION

- A. Shop Assembly:
1. General:
 - a. Fabricate sheet metal in accord with reviewed shop drawings and industry standards.
 - b. Form sheet metal work with clear, sharp and uniform arises. Hem exposed edges.
 - c. Fabricate corners with minimum 2'-0" returns each side of return; fully seal joints.
 2. Provide linear sheet metal items in 10'-0" sections minimum, except as otherwise noted. Form flashing using single pieces for full width.
 3. Form specified sheet metal items in accord with SMACNA details and existing adjacent work; gage indicated in SMACNA description of particular plate, but no less than .038" thickness.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verification of Conditions:
1. Verify locations of all roof openings and penetrations are in accord with reviewed shop drawings.
 2. Examine conditions and substrates under which products of this section are to be installed; submit written notification of unacceptable conditions or substrates.

3. Submit copy of installer's report to the Engineer within 72 hours of report receipt.
4. Proceeding with construction activity of this section:
 - a. Prior to correction of unacceptable conditions or substrates are prohibited.
 - b. Indicates installer's acceptance of conditions and substrates.

3.2 INSTALLATION

A. Sheet Metal:

1. Install work in accord with reviewed shop drawings and industry standards. Provide sheet metal items true to line, without buckling, creasing, warp or wind in finished surfaces.
2. Coordinate flashing at roof surfaces with roofing work to provide weather tight condition at roof terminations.
3. Perform field joining of lengths specified for shop fabrication, but in lengths no shorter than 10'-0" except at closure pieces.
4. Isolate dissimilar materials to prevent electrolysis. Separate using bituminous paint or roofing felt.
5. Seaming:
 - a. Comply with SMACNA Locks and Seams figures and other applicable plates.
 - b. Flat-lock seams: Finish not less than 3/4" wide.
 - c. Soldered lap seams: Finish not less than 1" wide.
 - d. Other lap seams: Overlap not less than 4" unless otherwise indicated.
 - e. Seams: Orient properly for direction of water flow.
 - f. Flatlock seams with cleats soldered.
 - g. Lap seams occurring in members sloping 45" or more, 4" minimum; bed in with butyl sealant.
 - h. Perform soldering in same manner indicated in FABRICATION Article.
6. Secure sheet metal items using continuous cleats, clips and blind fasteners as indicated; exposed face fastening is prohibited.
7. Fastening:
 - a. Nails: Confine to one edge only of flashing 1'-0" or less in width. Space nails at 4" O.C. Maximum. Provide neoprene washers for nails.
 - b. Cleats: Continuous; form to profile of item being secured.
 - c. Clips: Minimum 2" wide and continuous; form to profile of item being secured. The clips are continuous and the cap flashing replacement.
8. Form joints in linear sheet metal to allow for 1/2" minimum expansion at 20' -0" O.P.C. maximum and 8'-0" from corners. Provide 1'-0" wide back-up plate at intersections. Form plates to profile of sheet metal items. Apply linear sheet metal

items in full bed of butyl or urethane caulk over back-up plate.

9. Roof Penetration Flashing:

- a. Pipe penetrations: Provide flashing extending 2'-6" onto roofing felts each direction for pipes penetrating roof. Flash in accord with TPO roofing manufacturer's requirements.

END OF SECTION 07081

1. Indicate material types, sizes, shapes, thicknesses, finishes, fabrication details, joint details, anchors, connections, expansion joints, and relations to adjacent work.
2. Draw details and profiles to quarter size scale.
3. Include on detailed shop drawings, locations of sleepers and required fastening strips to secure metal work where sheet metal is applied to other than wood surfaces.

C. Samples, submit as follows:

1. Special finishes: 6" x 6" samples of manufacturer's standard colors for Architect's color selection, including a clear coated mill finish sample.
2. Manufactured expansion joint covers, copings, gravel stops, flashing reglets, and other flashing items: 1'-0" length in style and finish specified.

D. Quality control submittals:

1. Certificates: Submit certificates indicating materials supplied or installed are asbestos free.
2. Provide a declaration that the VOC levels in all adhesives and sealants used in the installation of the products do not exceed the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168, AND all sealants used as fillers meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51.

1.3

QUALITY ASSURANCE

A. Reference Standards. Comply with all federal and state laws or ordinances, as well as all applicable codes, standards, regulations and/or regulatory agency requirements including the partial listing below:

1. American Iron and Steel Institute (AISI).
2. American Society for Testing and Materials (ASTM).
3. Sheet metal and Air Conditioning Contractors National Association, Inc. (SMACNA).

B. Industry Standards:

1. AISI: Stainless Steel Data Manual, 1968 Edition.
2. SMACNA: Architectural Sheet Metal Manual, latest Edition,.

C. Pre-installation conference:

1. Prior to beginning work, conference will be held to review work to be accomplished.
2. Particular requirements are specified in Single Ply Membrane section.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Acceptance at site: Handle materials to prevent damage to surfaces, edges and ends of sheet metal items. Reject and promptly remove damaged materials from site.
- B. Storage and protection: Store materials off ground, under cover. Protect from damage and deterioration.

1.5 SEQUENCING AND SCHEDULING

- A. Coordinate requirements of this section with work described under Manufactured Roof section. Use flat stock matching respective roofing for shop fabricated flashings, closures and accessories.

1.6 WARRANTY

- A. Warrant flashing and sheet metal work to be free of defects in materials and workmanship; combine warranty with roofing warranty.
- B. Provide a warranty against defective equipment and workmanship in accordance with the requirements of the General Conditions of the Contract Documents.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Match existing gravel stop and wall termination flashing in gauge and profile. See Drawing A-3.3.
- B. Sheet metal:
 1. General: Follow gauge, thickness, or weight requirements in SMACNA Manual for intended use, but not less than indicated below.
 2. Galvanized Sheet Steel, 24 gage. allow Standard Color Kynar.
- C. Soldering materials:
 1. Solder: Meeting ASTM 032-76, alloy grade 50A, 50% pig lead and 50% block tin.
 2. Solder flux for:
 - a. Stainless steel and copper: Muriatic acid neutralized with zinc.
 - b. Lead: Non-corrosive rosin.

- D. Fasteners: Same material or compatible with sheet metal being fastened: Nails: Flathead, needle point, not less than 12 gauge; sufficient length to penetrate substrate 1" minimum.
1. Expansion shields: Lead sleeves.
 2. Screws: Self-tapping type with round heads.
 3. Bolts: Furnished complete with nuts and washers.
 4. Rivets: Round head, solid shank.
 5. Blind clips and cleats: gage per manufactures recommendation.
- E Caulk: Recommended by Roofing Manufacturer

2.2 FABRICATION

- A. Shop Assembly:
1. General:
 - a. Fabricate sheet metal in accord with reviewed shop drawings and industry standards.
 - b. Form sheet metal work with clear, sharp and uniform arises. Hem exposed edges.
 - c. Fabricate corners with minimum 2'-0" returns each side of return; fully seal joints.
 2. Provide linear sheet metal items in 10'-0" sections minimum, except as otherwise noted. Form flashing using single pieces for full width.
 3. Form specified sheet metal items in accord with SMACNA details and existing adjacent work; gauge indicated in SMACNA description of particular plate, but no less than .038" thickness.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verification of Conditions:
1. Verify locations of all roof openings and penetrations are in accord with reviewed shop drawings.
 2. Examine conditions and substrates under which products of this section are to be installed; submit written notification of unacceptable conditions or substrates.

3. Submit copy of installer's report to the Engineer within 72 hours of report receipt.
4. Proceeding with construction activity of this section:
 - a. Prior to correction of unacceptable conditions or substrates are prohibited.
 - b. Indicates installer's acceptance of conditions and substrates.

3.2 INSTALLATION

A. Sheet Metal:

1. Install work in accord with reviewed shop drawings and industry standards. Provide sheet metal items true to line, without buckling, creasing, warp or wind in finished surfaces.
2. Coordinate flashing at roof surfaces with roofing work to provide weather tight condition at roof terminations.
3. Perform field joining of lengths specified for shop fabrication, but in lengths no shorter than 10'-0" except at closure pieces.
4. Isolate dissimilar materials to prevent electrolysis. Separate using bituminous paint or roofing felt.
5. Seaming:
 - a. Comply with SMACNA Locks and Seams figures and other applicable plates.
 - b. Flat-lock seams: Finish not less than 3/4" wide.
 - c. Soldered lap seams: Finish not less than 1" wide.
 - d. Other lap seams: Overlap not less than 4" unless otherwise indicated.
 - e. Seams: Orient properly for direction of water flow.
 - f. Flatlock seams with cleats soldered.
 - g. Lap seams occurring in members sloping 45° or more, 4" minimum; bed in with butyl sealant.
 - h. Perform soldering in same manner indicated in FABRICATION Article.
6. Secure sheet metal items using continuous cleats, clips and blind fasteners as indicated; exposed face fastening is prohibited.
7. Fastening:
 - a. Nails: Confine to one edge only of flashing 1'-0" or less in width. Space nails at 4" O.C. Maximum. Provide neoprene washers for nails.
 - b. Cleats: Continuous; form to profile of item being secured.
 - c. Clips: Minimum 2" wide and continuous; form to profile of item being secured. The clips are continuous and the cap flashing replacement.
8. Form joints in linear sheet metal to allow for 1/2" minimum expansion at 20' -0" O.P.C. maximum and 8'-0" from corners. Provide 1'-0" wide back-up plate at intersections. Form plates to profile of sheet metal items. Apply linear sheet metal

items in full bed of butyl or urethane caulk over back-up plate.

9. Roof Penetration Flashing:

- a. Pipe penetrations: Provide flashing extending 2'-6" onto roofing felts each direction for pipes penetrating roof. Flash in accord with TPO roofing manufacturer's requirements.

END OF SECTION 07081

SECTION 07210

BUILDING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Contractor shall furnish all labor, materials, equipment and incidentals required to provide and install Insulation in water damaged areas on the 8th Floor ceiling as indicated on the Drawings.

1.2 REFERENCES

- A. Standards of the following as referenced:
 - 1. American Society for Testing and Materials (ASTM).
 - 2. Federal Specifications (Fed. Spec.).
 - 3. Underwriters Laboratories, Inc. (UL).

1.3 SUBMITTALS

A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

- A. Product data: Submit product data and installation instructions for each type insulation and installation.
- B. Quality control submittals:
 - 1. Certificates: Submit certificates indicating materials supplied or installed are asbestos free.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Storage and handling:
 - 1. Store materials under cover, off ground: protect from moisture.
 - 2. Remove wet, damaged, or deteriorated materials.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Batt insulation:
 - 1. Acceptable manufacturers, subject to compliance with specified requirements:

- a. Certain Teed Corporation.
 - b. Knauf Fiber Glass.
 - c. Manville Sales Company.
 - d. Owens Corning Fiberglas Corp.
2. Characteristics:
- a. Type: Fiberglass batts; 24 " width.
 - b. Facing:
 1. Unfaced meeting ASTM C665-86, Type I.
 - c. "R" value: R-30 for horizontal installations.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's product data for each type installation. Cut insulation around obstructions and protrusions. Remove projections interfering with installation.
- B. Thermal insulation installation:
 1. General: Comply with manufacturer's installation instructions for conditions encountered.
 2. Batt insulation:
 - a. Install in indicated ceiling areas to replace water damaged existing insulation.
 - b. Support with galvanized chicken wire suspended from the structure with wire hangers 4'-0" oc in both directions.

END OF SECTION 07210

SECTION 07220

RIGID INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Contractor shall furnish all labor, materials, equipment and incidentals required to provide and install Rigid Insulation on roof decks as indicated on the Drawings.

1.2 SECTION INCLUDES

- A. HCFC FREE Polyiso Rigid board type roof insulation for thermal protection as part of roofing assemblies.
- B. Tapered Polyiso Rigid board type roof insulation.

1.3 REFERENCES

- A. Standards of the following as referenced:
 - 1. American Society for Testing and Materials (ASTM).
 - 2. Underwriters Laboratories, Inc. (UL).

1.4 SUBMITTALS

A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

- A. Product data:
 - 1. Manufacturer’s specifications.
 - 2. Installation instructions for insulation board and fasteners.
 - 3. Product Data as per ASTM 2129 – 01 Standard for Data Collection for Sustainability Assessment of Building Products.
- B. Samples:
 - 1. Submit 6 by 6 inch (152 by 152 mm) samples of each board type required.
 - 2. Submit samples of each fastener type required.
- C. Shop Drawings: Roof plan showing layout of boards and fastening patterns.

- D. Certificates: System Manufacturer's or insulation manufacturer's certification that the insulation meets Zero ODP (Ozone Depletion Potential) and Zero GWP (Global Warming Potential) specification requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Storage and handling:
 - 1. Store materials under cover, off ground: protect from moisture.
 - 2. Deliver insulation in packages labeled with material name, thermal value and product code.
 - 3. When stored outdoors, stack insulation on pallets above ground or roof deck and cover with tarpaulin or other suitable waterproof coverings. Slit or remove manufacturer's packaging before covering with waterproof covering.

1.6 PROJECT CONDITIONS

- A. Do not install insulation on roof deck when water of any type is present. Do not apply roofing materials when substrate is damp or wet.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Rigid Insulation:
 - 1. Acceptable manufacturers, subject to compliance with specified requirements:
 - a. Atlas Roofing Corporation
 - b. Firestone Building Products
 - c. RMax Operating, LLC.
 - 2. Characteristics:
 - a. Type: Polyisocyanurate Insulation Board
 - b. Facing:
 - 1. Manufacturer's recommended facing material
 - c. "R" value: Minimum Long Term Thermal Resistance = R 6.0 per inch thickness.
- B. Fasteners:
 - 1. As recommended by insulation and roofing manufacturer

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's product data for each type installation. Cut insulation around obstructions and protrusions. Remove projections interfering with installation.

3.2 EXAMINATION

- A. Examine roof deck for suitability to receive insulation. Verify that substrate is dry, clean and free of foreign material that will damage insulation or impede installation.
- B. Verify that roof drains, scuppers, roof curbs, nailers, equipment supports, vents and other roof

accessories are secured properly and installed in conformance with Contract Drawings and submittals.

- C. Start of installation indicates installer accepts conditions of existing deck surfaces.

3.3 APPLICATION / INSTALLATION

- A. Install specified insulation using approved mechanical fasteners in accordance with manufacturer's latest written instructions and as required by governing codes.
- B. Install with end joints staggered to avoid having insulation joints coinciding with joints in deck. In multi-layer installations, stagger joints in top and bottom layers.

3.4 CLEANING / PROTECTION

- A. Remove trash and construction debris from insulation surface prior to application of roofing membrane.
- B. Do not leave installed insulation exposed to weather. Cover and waterproof with completed roof system immediately after installation.
 - 1. Temporarily seal exposed insulation edges at the end of each day.
 - 2. Remove and replace installed insulation that has become wet or damaged with new insulation.
- C. Protect installed insulation and roof cover from traffic by use of protective covering materials during and after installation.

END OF SECTION 07220

SECTION 07540

FULLY ADHERED THERMOPLASTIC OLEFIN (TPO) ROOFING SYSTEM

PART 1 GENERAL

1.1 GENERAL NOTES

- A. Contractor will observe all published safety prevention policies and practices
- B. Preceding job start up, contractor shall decide to his satisfaction that all specifications contained herein are workable.
- C. Contractor will perform all work by competent, trained, and properly equipped personnel in strict accordance with good roofing practices and applicable industry standards. relating to application of roofing system and related work. All federal, state, and local codes shall be followed.
- D. Contractor will follow application, safety, etc. information as published in the most current edition of the Manufacture's TPO Roofing System Technical Specification.
- E. Contractor will submit a safety plan for review by the County and the Architect.

1.2 WORK INCLUDED

- A. Work under this section covers the installation of a new Fully Adhered TPO roofing system on the Atlanta-Fulton County Central Library, Atlanta, GA. In addition, contractor shall include all related items of work as noted herein or indicated on the drawings or otherwise required to complete the specified elements of work and provide the necessary warranties for this work.
- B. Contractor will remove the existing roof system to the existing concrete deck and dispose of all materials properly. Any asbestos removal shall comply with state and local codes and requirements and shall be disposed of in a legal manner.

1.3 SECTION INCLUDES

- A. Substrate preparation.
- B. Wood nailer installation.
- C. Membrane installation.
- D. Membrane flashing installation.
- E. Walkway Pads and installation

1.4 RELATED SECTIONS

- A. Section 07081 – Flashing and Sheet Metal
- B. Section 07810 -- Sprayed Fire-Resistant Materials
- C. Section 07900 – Caulking and Sealants
- D. Section 09911 – Exterior Painting

1.5 DEFINITIONS

- A. American Society for Testing and Materials (ASTM): 1916 Race St., Philadelphia, PA 19103.

1.6 SYSTEM DESCRIPTION

- A. Reinforced THERMOPLASTIC OLEFIN sheet roofing that is adhered to acceptable substrate with Manufacture's recommended bonding adhesive.

1.7 SUBMITTALS

A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

- A. Product Data:
 - 1. Submit copies of Manufacture's Technical Information Sheets (TIS) for primary products used including roof membrane, splice tape, fasteners, and batten strip.
- B. Samples:
 - 1. Submit samples of roof membrane.
- C. Application Information:
 - 1. Submit copy of Manufacture's application specification.
- D. Letter attesting that Manufacture's currently licenses roofing contractor.
- E. Warranty: Submit warranty sample.
- F. Pre Installation Notice:
 - 1. Submit copy of Manufacture's Pre Installation Notice (PIN) that has been accepted and approved by Manufacture.

1.8 QUALIFICATIONS

- A. Manufacturer:
 - 1. Company providing a no dollar limit, single source roof system warranty that is backed by corporate assets in excess of one billion dollars.
 - 2. System supplier must have ISO 9002 certification
 - 3. Manufacturer must be able to provide the project with the membrane and Isocyanurate insulation that is produced in their facilities.
- B. Applicator:
 - 1. Shall be a Manufacture's Licensed Contractor.
 - 2. Shall have at least five years experience in installing heat welded system.

1.9 REGULATORY REQUIREMENTS

- A. Conform to applicable local building code requirements.
- B. Underwriters Laboratories, Inc. (UL): Class A Fire Hazard Classification.

1.10 QUALITY INSPECTION/OBSERVATION

- A. Inspection by Manufacturer: Provide a final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer.
 - 1. Technical Representative shall not perform any sales functions.
 - 2. Contractor shall complete any necessary repairs required for issuance of warranty.

1.11 PRE-INSTALLATION CONFERENCE

- A. Before start of roofing work, the contractor shall arrange a meeting with installer, roofing manufacturers' field representative, and other trades whose work affects installation of roofing materials at project site to review procedures and time schedule proposed for installation of roofing which is coordinated with other related work.

1.12 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers dry, undamaged, seals and labels intact and legible.
- B. Store all materials clear of ground and moisture with weather protective covering.
- C. Keep all combustible materials away from ALL ignition sources.

1.13 ENVIRONMENTAL REQUIREMENTS

- A. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice.
- B. Do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application. Consult Manufacture's Technical Specifications on cold weather application.

1.14 WARRANTY

- A. Type/Term:
 - 1. Provide 20 year Warranty. Warranty shall include membrane, roof insulation, edge metal and flashing and membrane accessories.
- B. Coverage:
 - 1 Limit of liability: No Dollar Limitation
 - 2 Scope of coverage:
Repair any leak in the TPO Roofing System caused by the ordinary wear and tear of the elements, manufacturing defect in manufacture's materials, and the workmanship used to install these materials.

PART 2 PRODUCTS

2.1 NAILERS FOR FLANGES AND ROOF ACCESSORIES

- A. Description: Structural Grade No. 2 or better Southern Pine, Douglas Fir, or Exterior Grade plywood. All wood shall be pressure treated for rot resistance.
 - 1. Nailer width: Minimum 3 ½ in. (nominal) wide or as wide as the nailing flange of each roof accessory.
 - 2. Nailer thickness: Thickness of roof insulation.
- B. Reference Standards:
 - 1. Southern Pines: PS 20; SPIB Grading Rules.
 - 2. Western Woods: PS 20; WWPA Grading Rules.
 - 3. Plywood: PS 1; APA Grade Stamps.

2.2 MANUFACTURERS - MEMBRANE MATERIALS

- A. Basis of Design
 - 1. Firestone Building Products – UltraPly
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Firestone Building Products
 - 2. Carlisle SynTec Incorporated
 - 3. Dow Roofing Systems
- C. Adhered single-ply membrane system:
 - 1. Reinforced TPO sheet roofing that is adhered to acceptable substrate with TPO bonding adhesive.

2.3 ULTRAPLY TPO SHEET ROOFING AND FLASHING MEMBRANE

- A. Description: Reinforced, TPO synthetic single-ply membrane composed of Thermoplastic Polyolefin polymer, and Ethylene Propylene Rubber.
 - 1. Membrane Type: .060 Reinforced TPO

<u>Testing</u>	A. Minimum Values	B. Typical values (SI Units)
Thickness, min, mm (in.)		
Sheet-overall	1.0 (0.039)	0.060± 10%
Coating over scrim	0.381 (0.015)	0.022± 10%
Tensile strength, min, MPa (psi)	NA	
Breaking strength, min, kN (lbf)	1.0 (225)	300
Elongation, ultimate, min, %	NA	
Elongation at break, min, %	15 ^A	25 ^A
Tensile set, max, %	NA	
Tear strength, min, kN/m (lbf/in.)	NA	
Tearing strength, min, N	245 (55)	245 (55)

(lbf)		
Brittleness point, max, °C	-30 (-22)	-60 (-51)
(°F)		
Ozone resistance, no cracks	Pass	Pass

Properties after heat aging:
(retained values)

Tensile strength, % min	NA	
Breaking strength, % min	90%	90%
Elongation, ultimate, % min	NA	
Elongation at break, % min	90% ^A	90%
Tear strength, % min	NA	
Tearing strength, % min	90%	90%
Weight Change (Mass), max %	±4 ^B	±4 ^B
Linear dimensional change, max, %	±2	-1.0
Water absorption, max, mass %	±4 ^B	+1.0 ^B
Factory seam strength, min, kN/m (lbf/in.)	75% of Sheet strength	75% of Sheet strength

Weather resistance:

Visual inspection	Pass	Pass
Tensile strength, % min	NA	
Breaking strength, % min	90%	90%
Elongation, Ultimate, % min	NA	
Elongation at break, min, %	90% ^A	90% ^A
PRFSE, min, %	N/A	

B. Reference Standards:

- D 412 Test Methods for Vulcanized Rubber and Thermo-plastic Rubbers and Thermoplastic Elastomers--Tension
- D 471 Test Method for Rubber Property--Effect of Liquids
- D 573 Test Method for Rubber--Deterioration in an Air Oven
- D 624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- D 751 Test Methods for Coated Fabrics
- D 1149 Test Method for Rubber Deterioration--Surface Ozone Cracking in a Chamber
- D 1204 Test Method for Linear Dimensional Changes of Non-rigid Thermoplastic Sheet or Film at Elevated Temperature
- D 1822 Test Method for Tensile-Impact Energy To Break Plastics and Electrical Insulating Materials
- D 2137 Test Methods for Rubber Property--Brittleness Point of Flexible Polymers and Coated Fabrics
- D5538 Practice for Thermoplastic Elastomers- Terminology and Abbreviations
- G 155 Practice for Operating Light-Exposure Apparatus (Xenon-arc Type) With and Without Water for Exposure of Non- metallic Materials

- G 154 Practice for Operating Light- and Water-Exposure Apparatus (Fluorescent UV - Condensation Type) for Exposure of Nonmetallic Materials

2.4 ROOF INSULATION COMPONENTS

MANUFACTURE'S ISOGARD HD Cover Board

- A. Description: High density, closed cell polyisocyanurate foam core with a coated glass facer.
1. Nominal thickness:4"
 2. Nominal Size: 48 in. x 96 in.
- B. Reference Standards:
1. ASTM C518 LTTR=2.5
 2. ASTM D1621 Compression Strength = 120psi
 3. UL Classified
 4. FM Approved
- C. Product/Producer: Basis of Design: Firestone ISOGARD HD

INSULATION FASTENERS

1. Description: Heavy- duty threaded fastener with 3-coat waterborne fluorocarbon polymer coating and drill point tip capable of penetrating 20-gauge steel. Fastener shall meet minimum thread size of .260" and 13 threads per inch. Length shall be sufficient to penetrate deck a minimum of 3/4" for steel and 1" for wood and concrete. Structural concrete decks must be pre-drilled with a 7/32" carbide drill bit to a depth 1/2" deeper than the fastener engagement.
2. Reference Standard: SAE 1022, Heat Treated
3. Product/Producer:
 - a. Heavy- Duty (HD) fasteners by Manufacture's.

2.5 TPO SHEET ROOFING SYSTEM COMPONENTS

- A. Roof Flashing:
1. Description: .060 TPO membrane
- B. TPO Flashing:
1. Description: Non-reinforced, TPO, single-ply flashing composed of Thermoplastic Polyolefin polymer, and Ethylene Propylene Rubber.
 - a. Nominal Thickness: .060 inch
- C. Bonding Adhesive:
1. Description: SBR-based, formulated for compatibility with TPO membrane & a wide variety of substrate materials, including masonry, wood, and insulation facings.
 2. Product/Producer:
 - a. Manufacture's TPO Bonding Adhesive by Manufacture's.
- D. Pourable Sealer:
1. Description: 2-Part urethane, 2-color for reliable mixing.
- E. Seam Plates:
1. Description: Steel with barbs and a Galvalume coating.
 2. Reference Standard: Corrosion-resistant to meet FM-4470 criteria.
- F. Termination Bar:
1. Description: 1.3" X 0.10" thick aluminum bar with integral caulk ledge.
 2. Product/Producer:

- a. Manufacture's Termination Bar
- G. Membrane Fasteners:
 - 1. Description: Standard duty threaded fastener with fluorocarbon polymer coating and drill point tip capable of penetrating 20-gauge steel. Length shall be sufficient to penetrate deck a minimum of ¾" for steel and 1" for wood.
 - 2. Reference Standard: SAE 1022, Heat Treated
 - 3. Product/Producer:
 - a. All Purpose (AP) fasteners by Manufacture's.
- H. TPO Cut Edge Sealant:
 - 1. Polymeric sealant for use where exposed reinforcement is encountered.
 - 2. Product/Producer;
 - a. Manufacture's TPO Cut Edge Sealant
- I. Manufacture's TPO General Purpose Sealant:
 - 1. Polymeric one part general purpose sealant
 - 2. Product/Producer,
 - a. Manufacture's TPO General Purpose Sealant
- J. Manufacture's TPO Coated Metal:
 - 1. Galvanized Steel with Manufacturers bonded TPO Coating.
 - 2. Product/Producer,
 - a. Manufacture's TPO Coated Metal
- K. Manufacture's TPO Molded Flashing Accessories:
 - 1. Unreinforced TPO membrane Pre-Molded for a variety of flashing details (i.e. Pipe Boots, Inside-Outside corners, etc.)
 - 2. Product/Producer,
 - a. Manufacture's TPO Pre-molded Flashing Accessories by Manufacture's
- L. Manufacturer's TPO Walkway Pads
 - 1. Scrim reinforced and composed of thermoplastic material compatible with the manufacturer's TPO membrane. Walkways are to be 90 GA, 30" wide and have a white, textured reflective surface and smooth bottom for ease of welding and installation. Install as indicated on the Drawings.

2.6 METAL FLASHING

- A. Edge Metal and/or Coping:
 - 1. Description: Provide extruded aluminum edge metal to match existing by Tremco.

2.7 MISCELLANEOUS

- A. TPO molded inside corners.
- B. TPO molded outside corners.
- C. TPO molded pipe boots.

PART 3 INSTALLATION

3.1 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support roofers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Start work with sealants and adhesives at 60° - 80° F.
- E. Fumes from adhesive solvents may be drawn into the building during installation through rooftop intakes. Appropriate measures must be taken to assure that fumes from adhesive solvents are not drawn into the building through air intakes.
- F. For reroofing applications only: remove existing roof system components as specified
- G. The surface must be clean, dry, smooth, free of sharp edges, fins, loose or foreign materials, oil, grease and other materials that may damage the membrane. All roughened surfaces that could cause damage shall be properly repaired before proceeding.
- H. All surface voids of the immediate substrate greater than 1/4" wide must be properly filled with an acceptable insulation or suitable fill material.

3.2 PROTECTION OF OTHER WORK

- A. Protect metal, glass, plastic, and painted surfaces from adhesives and sealants.
- B. Protect neighboring work, property, cars, and persons from spills and overspray from adhesives, sealants and coatings and from damage related to roofing work.
- C. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

3.3 MATERIAL STORAGE AND HANDLING

- A. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.
- B. Consult container labels and Material Safety Data Sheets (MSDS) for specific safety instructions.
- C. Deliver materials to job site in their original containers as labeled by the manufacturer.

3.4 WOOD NAILER LOCATION AND INSTALLATION

- A. Total wood nailer height shall match the total thickness of insulation being used and shall be installed with a 1/8" gap between each length and at each change of direction.
- B. Wood nailers shall be firmly fastened to the deck. Mechanically fasten wood nailers to resist a force of 200 lbs. per lineal foot.

3.5 VAPOR RETARDER

None

3.6 ROOF INSULATION APPLICATION: GENERAL

- A. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- B. Seal deck joints, where needed, to prevent adhesive drippage.
- C. Lay roof insulation in courses parallel to roof edges.
- D. Neatly fit insulation to all penetrations, projections, and nailers. Insulation shall be fit tightly, with gaps not greater than ¼". All gaps greater than ¼" shall be filled with acceptable insulation. Under no circumstances shall the roofing membrane be left unsupported over a space greater than ¼". Tapered insulation shall be installed around roof drains so as to provide proper slope for drainage. Miter roof insulation edges at ridge, valley and other similar non-planar conditions.
- E. When installing multiple layers of insulation, all joints between layers shall be staggered at least 6 in.

3.7 INSULATION ATTACHMENT

- A. Insulation Layer:
 - 1. Basis of design: Manufacture's IsoGard Coverboard
 - 2. Insulation Layer Attachment: Mechanically Attached

3.8 INSULATION APPLICATION

- A. Using the Manufacture's Heavy Duty Insulation and Manufacture's insulation plate engage fastener through insulation into Metal Deck at the depth and rate specified in the Manufacture's Technical Information Manual.

3.9 MEMBRANE INSTALLATION

- A. Place membrane panel, over the substrate in its final position.
- B. After making sure the sheet is placed in its final position allowing for a 3" lap, fold it back evenly onto itself so as to expose the underside.
 - 1. Where TPO Membrane has been cut to expose reinforcing membrane, Manufacture's TPO Cut Edge Sealant or TPO General Purpose Sealant must be used to encapsulate exposed edge.
- C. Sweep the mating surface of the membrane with a stiff broom to remove any dirt that may have accumulated.
- D. Apply TPO bonding adhesive at about the same time to both the exposed underside of the sheet and the substrate to which it will be adhered so as to allow approximately the same drying time.
- E. Do not apply bonding adhesive over an area that is to be later heat welded to another sheet or flashing.
- F. Allow bonding adhesive to flash off until tacky. Touch the bonding adhesive surface with a clean, dry finger to be certain that the adhesive film is dry to the touch and there is no wet adhesive beneath the top adhesive film. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating. Flash off time will vary depending on ambient air conditions.
- G. Starting at the fold, roll the previously coated portion of the sheet into the coated substrate slowly and evenly so as to minimize wrinkles.

- H. To ensure proper contact, compress the bonded half of the sheet to the substrate with a stiff push broom.
- I. Fold the un-adhered half of the membrane sheet back onto itself, and repeat the procedure to complete the bonding of the sheet.

3.10 MEMBRANE LAP SPLICING

- A. Lap splice areas that have been contaminated must be wiped down with a dry or damp (water only) clean cloth prior to heat welding and allow to completely dry.
- B. All field and flashing splices on the horizontal surface shall be completed using an automatic heat welder that has been designed for hot air welding of thermoplastic membranes.
- C. Hand held welders are only to be used on vertical welds or where an automatic welder is not practical or cannot be used.
- D. Seams made with the automatic welder shall be a minimum of 1-1/2" wide. Seams made with hand welders shall be a minimum of 2" wide. Use 2" wide silicone or silicone coated steel hand rollers to assure proper mating of surfaces as hand heat welding proceeds.
- E. Probe all completed welds using a slotted screwdriver or cotter pin puller type tool to verify seam integrity. Do not probe welds until they have had time to cool to ambient conditions. Any welds found to be insufficiently welded need to be repaired on a daily basis.

3.11 MEMBRANE SECUREMENT

- A. Secure membrane at all locations where the membrane terminates or goes through an angle change greater than 1" in 12" except for round pipe
- B. penetrations less than 18" in diameter and square penetrations less than 4" square.

3.12 FLASHING - PENETRATIONS

- A. General:
 - 1. If project is a Retrofit or Tear-Off remove all existing flashings (i.e. lead, asphalt, mastic, etc.).
 - 2. Flash all penetrations passing through the membrane.
 - 3. The flashing seal must be made directly to the penetration.
- B. Pipes, Round Supports, etc.:
 - 1. Flash with Manufacture's Pre-Molded Pipe Flashings where practical.
 - 2. Flash using membrane when Pre-Molded Flashing is not practical.
- C. Structural Steel Tubing:
 - 1. Use a field fabricated pipe flashing detail provided that the minimum corner radius is greater than 1/4" and the longest side of the tube does not exceed 12". When the tube exceeds 12" use a standard curb detail.
- D. Pipe Clusters and Unusual Shaped Penetrations:
 - 1. Fabricate penetration pockets to allow a minimum clearance of 1" between the penetration and all sides.
 - 2. Secure penetration pockets per Manufacture's Details
 - 3. Fill penetration pockets with Pourable Sealer, so as to shed water. Pourable Sealer shall be a minimum of 2" deep.
- E. Hot Pipes:

1. Protect the TPO components from direct contact with steam or heat sources when the in-service temperature is in excess of 140° F. In all such cases flash to an intermediate insulated "cool" sleeve per Manufacture's details.
 - F. Flexible Penetrations:
 1. Provide a weathertight gooseneck set in Water Block Seal and secured to the deck.
 2. Flash in accordance with Manufacture's Details
 - G. Expansion Joints:
 1. Install as shown on roof drawings in accordance with Manufacture's details.
- 3.13 FLASHING - WALLS, PARAPETS, MECHANICAL EQUIPMENT CURBS, SKYLIGHTS, etc.
- A. General:

Using the longest pieces practical, flash all walls, parapets, curbs, etc., a minimum of 8" high per Manufacture's Details.
 - B. Evaluate Substrate:

Evaluate the substrate and overlay per Manufacture's specifications as necessary.
 - C. If project is a Retrofit or Tear-Off remove all flashings.
 - D. Remove excessive asphalt to provide a smooth, sound surface for new flashings.
 - E. Apply Manufacture's TPO Bonding Adhesive at about the same time to both the membrane flashing and the surface to which it is being bonded so as to allow approximately the same drying time. Apply TPO Bonding Adhesive by rolling the adhesive on to the mating surfaces evenly, avoiding globs or puddles.
 - F. Allow TPO Bonding Adhesive to flash off until tacky. Touch the TPO Bonding Adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating. Flash off time will vary depending on ambient air conditions.
 - G. Roll the flashing into the adhesive evenly and carefully so as to minimize wrinkles.
 - H. To ensure proper contact, compress the flashing to the substrate with a stiff push broom.
 - I. Complete the splice between membrane flashing and the main roof sheet by hot air welding. Provide lap splices in accordance with Manufacture's details.
 - J. Provide termination directly to the vertical substrate as shown in Manufacture's Details.
 - K. Install TPO-Joint covers at field and flashing splice intersections as required by Manufacture's.
 - L. Install intermediate flashing attachment as required by Manufacture's Specifications and Details
- 3.14 SHEET METAL WORK
- A. Install Manufacture's supplied sheet metal as shown on roof drawings.
 - B. Follow current industry guidelines for installation or Manufacture's requirements, whichever is more stringent.

3.15 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed as required by the manufacturer
- B. Correct identified defects or irregularities.

3.16 CLEAN-UP

- A. Clean all contaminants from building and surrounding areas.
- B. Remove trash, debris, equipment from project site and surrounding areas.
- C. Repair or replace damaged building components or surrounding areas to the satisfaction of the building owner.

END OF SECTION 07540

SECTION 07810

SPRAYED FIRE-RESISTANT MATERIALS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The Contractor shall furnish all materials, labor, equipment, and incidentals required to perform all sprayed fire-resistant insulation, and related work necessary for the proper completion of the project as required by the Drawings and as specified herein.
- B. Contract drawings show only functional features and some of the general conditions of the work involved. They do not show all components required for a complete installation nor exact dimensions of the required work. Contractor shall supply all devices, material and equipment necessary to meet the requirements of the Contract Documents and shall make all dimensional adjustments particular to the material being furnished. All costs associated with such changes and adjustments shall be considered as being included in the price bid for the Work shown and specified.

1.2 PERFORMANCE REQUIREMENTS

- A. Thickness: Provide minimum average thickness required for fire-resistance design indicated according to the following criteria, but not less than 0.375 inches per ASTM E 605:
 - 1. No more than ten percent (10%) of the thickness measurements of sprayed fire resistive materials shall be less than the thickness required by the approved design.
 - 2. Where the referenced fire-resistance design lists a thickness of 1 inch or greater, the minimum allowable individual thickness of sprayed fire-resistive material is the design thickness minus 0.25 inch.
- B. Bond Strength: 150 lb/sq. ft. minimum per ASTM E 736 under the following conditions:
 - 1. Field test sprayed fire-resistive material that is applied to flanges of wide-flange, structural-steel members on surfaces matching those that will exist for remainder of steel receiving fire-resistive material.
 - 2. If surfaces of structural steel receiving sprayed fire-resistive material are primed or otherwise painted for coating materials, perform series of bond tests specified in UL's "Fire Resistance Directory." Provide bond strength indicated in referenced UL fire-resistance criteria, but not less than 150 lb/sq. ft. minimum per ASTM E 736.
 - 3. Minimum thickness of sprayed fire-resistive material tested in laboratory shall be 0.75 inches.
 - 4. The impact of ambient conditions (temperature, humidity, space conditions, etc.) shall be considered in the selection of fireproofing products to prevent loss of required bonding strength.
- C. Compressive Strength: 5.21 lb/sq. in. as determined in the laboratory per ASTM E 761. Minimum thickness of sprayed fire-resistive material tested

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shall be 0.75 inches and minimum dry density shall be as specified, but not less than 15 lb/cu. ft.

- D. Corrosion Resistance: No evidence of corrosion per ASTM E 937.
- E. Deflection: No cracking, spalling, or delamination per ASTM E 759.
- F. Effect of Impact on Bonding: No cracking, spalling, or delamination per ASTM E 760.
- G. Air Erosion: Maximum weight loss of 0.025 g/sq. ft. in 24 hours per ASTM E 859. For laboratory tests, minimum thickness of sprayed fire-resistive material is 0.75 inches, maximum dry density is 15 lb/cu. ft., test specimens are not prepurged by mechanically induced air velocities, and tests are terminated after 24 hours.
- H. Fire-Test-Response Characteristics: Provide sprayed fire-resistive materials with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Flame-Spread Index: 10 or less.
 - 2. Smoke-Developed Index: 0.
- I. Fungal Resistance: No observed growth on specimens per ASTM G 21.

1.3 SUBMITTALS

A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Structural framing plans indicating the following:
 - 1. Locations and types of surface preparations required before applying sprayed fire-resistive material.
 - 2. Extent of sprayed fire-resistive material for Building Type A-1 construction and fire-resistance rating, including the following:
 - a. Applicable fire-resistance design designations of a qualified testing and inspecting agency acceptable to authorities having jurisdiction.

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- b. Minimum thicknesses needed to achieve required fire-resistance ratings of structural components and assemblies.
- c. Designation of restrained and unrestrained conditions based on definitions in ASTM E 119, Appendix X3 as determined by a qualified professional engineer.
- 3. Treatment of sprayed fire-resistive material after application.
- C. Product Certificates: For each type of sprayed fire-resistive material, signed by product manufacturer.
- D. Qualification Data: For manufacturer and testing agency.
- E. Compatibility and Adhesion Test Reports: From sprayed fire-resistive material manufacturer indicating the following:
 - 1. Materials have been tested for bond with substrates.
 - 2. Materials have been verified by sprayed fire-resistive material manufacturer to be compatible with substrate primers and coatings.
 - 3. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for proposed sprayed fire-resistive materials.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual certified, licensed, or otherwise qualified by sprayed fire-resistive material manufacturer as experienced and with sufficient trained staff to install manufacturer's products according to specified requirements. A manufacturer's willingness to sell its sprayed fire-resistive materials to Contractor or to an installer engaged by Contractor does not in itself confer qualification on the buyer.
 - 1. Installer's responsibilities include providing professional engineering services needed to assume engineering responsibility for designation of restrained and unrestrained conditions.
- B. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
- C. Source Limitations: Obtain sprayed fire-resistive materials through one source from a single manufacturer.
- D. Provide products containing no detectable asbestos as determined according to the method specified in 40 CFR 763, Subpart E, Appendix E, Section 1, "Polarized Light Microscopy."

1.5 WARRANTY

- A. Provide a warranty against defective equipment and workmanship in accordance with the requirements of the General Conditions of the Contract Documents.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in original unopened containers or bundles

with labels showing manufacturer, product name and designation, expiration period for use.

- B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

PART 2 - PRODUCTS

2.1 SPRAYED FIRE-RESISTIVE MATERIALS

- A. Provide fire-resistive materials that are compatible with the undamaged existing material.
- B. Available Products:
 - 1. Cementitious Sprayed Fire-Resistive Material:
 - a. Carbolite Co., Fireproofing Products Div.; Pyrolite 15 High Yield.
 - b. Grace, W. R. & Co.--Conn., Construction Products Div.; Monokote Type MK-6/HY.
 - c. Isolatek International Corp., Cafco Products; Cafco 300.
 - d. Southwest Vermiculite Co., Inc.; 5GP.
 - e. Grace, W. R. & Co.--Conn., Construction Products Div.; Retro-Gard.
 - f. Approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrates and other conditions affecting performance of work. A substrate is in satisfactory condition if it complies with the following:
 - 1. Substrates comply with requirements in the Section where the substrate and related materials and construction are specified.
 - 2. Substrates are free of oil, grease, rolling compounds, incompatible primers, loose mill scale, dirt, or other foreign substances capable of impairing bond of fire-resistive materials with substrates under conditions of normal use or fire exposure.
 - 3. Objects penetrating fire-resistive material, including clips, hangers, support sleeves, and similar items, are securely attached to substrates.
 - 4. Substrates are not obstructed by ducts, piping, equipment, and other suspended construction that will interfere with applying fire-resistive material.
- B. Conduct tests according to fire-resistive material manufacturer's written recommendations to verify that substrates are free of oil, rolling compounds, and other substances capable of interfering with bond.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Cover other work subject to damage from fallout or overspray of fire-resistive materials during application.
- B. Clean substrates of substances that could impair bond of fire-resistive material, including dirt, oil, grease, release agents, rolling compounds, loose mill scale, and incompatible primers, paints, and encapsulants.
- C. Prime substrates where recommended in writing by sprayed fire-resistive material manufacturer unless compatible shop primer has been applied and is in satisfactory condition to receive sprayed fire-resistive material.

3.3 INSTALLATION, GENERAL

- A. Comply with fire-resistive material manufacturer's written instructions for mixing materials, application procedures, and types of equipment used to mix, convey, and spray on fire-resistive material, as applicable to particular conditions of installation and as required to achieve fire-resistance ratings indicated.
- B. Apply sprayed fire-resistive material that is identical to products tested as specified in Part 1 "Quality Assurance" Article and substantiated by test reports, with respect to rate of application, accelerator use, sealers, topcoats, tamping, troweling, water overspray, or other materials and procedures affecting test results.
- C. Coat substrates with adhesive before applying fire-resistive material where required to achieve fire-resistance rating or as recommended in writing by sprayed fire-resistive material manufacturer for material and application indicated.
- D. Extend fire-resistive material in full thickness over entire area of each substrate to be protected. Unless otherwise recommended in writing by sprayed fire-resistive material manufacturer, install body of fire-resistive covering in a single course.
- E. Spray apply fire-resistive materials to maximum extent possible. Apply to thickness of existing undamaged fire-resistant material for decking and structural steel. Following the spraying operation in each area, complete the coverage by trowel application or other placement method recommended in writing by sprayed fire-resistive material manufacturer.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: The Contractor shall hire an Owner-approved qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
 - 1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.

- B. Testing Services: Tested values must equal or exceed values indicated and required for approved fire-resistance design.
 - 1. Thickness for Roof Assemblies: For each area, from the average of 4 measurements from a 144-sq. in. sample area, with sample width of not less than 6 inches per ASTM E 605.
 - 2. Thickness for Structural Frame Members: From a sample of 25 percent of structural members taking 9 measurements at a single cross section for structural frame beams or girders, 7 measurements of a single cross section for columns per ASTM E 605.
 - 3. Density for Roofs and Structural Frame Members: At frequency and from sample size indicated for determining thickness of each type of construction and structural framing member, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method."
 - 4. Bond Strength for Roofs and Structural Framing Members: For each partial area, cohesion and adhesion from one sample of size indicated for determining thickness of each type of construction and structural framing member, per ASTM E 736.
 - 5. If testing finds applications of sprayed fire-resistive material are not in compliance with requirements, testing and inspecting agency will perform additional random testing to determine extent of noncompliance.
- C. Remove and replace applications of sprayed fire-resistive material where test results indicate that it does not comply with specified requirements for cohesion and adhesion, for density, or for both.
- D. Apply additional sprayed fire-resistive material per manufacturer's written
- E. instructions where test results indicate that thickness does not comply with specified requirements.
- F. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 CLEANING, PROTECTING, AND REPAIR

- A. Cleaning: Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.
- B. Protect sprayed fire-resistive material, according to advice of product manufacturer and Installer, from damage resulting from construction operations or other causes so fire protection will be without damage or deterioration at time of Substantial Completion.
- C. Coordinate application of sprayed fire-resistive material with other construction to minimize need to cut or remove fire protection. As installation of other construction proceeds, inspect sprayed fire-resistive material and patch any damaged or removed areas.
- D. Repair or replace work that has not been successfully protected

END OF SECTION 07810

SECTION 07900

CAULKING AND SEALANTS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The Contractor shall furnish all materials, labor, equipment, and incidentals required to perform all caulking, and related work necessary for the proper completion of the project as required by the Drawings and as specified herein.
- B. Contract drawings show only functional features and some of the required external connections. They do not show all components required for a complete installation nor exact dimensions particular to any manufacturer's equipment. Contractor shall supply all parts, devices, material and equipment necessary to meet the requirements of the Contract Documents and shall make all dimensional adjustments particular to the material being furnished. All costs associated with such changes and adjustments shall be considered as being included in the price bid for the Work shown and specified.

1.2 APPLICATION SCHEDULE

- A. Caulk all exterior wall joints between frames in openings and adjacent materials, between windows and cast in place concrete, expansion and control joints and all other joints shown on the Drawings or required for the completion of the work.
- B. Caulk all exterior window and door frames and all other joints shown on the drawings or required for the completion of the work.
- C. Joints of similar nature to those indicated shall be sealed with same sealer, whether indicated on Drawings to be sealed or not.

1.3 SUBMITTALS

A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

- A. Submit to the Architect as provided in the General Conditions for shop drawings,

detailed information on materials proposed and installation methods.

- B. Product Data: Manufacturer's technical data for each joint sealer product required, including instructions for joint preparation and joint sealer application.
- C. Samples for Color Selection: Manufacturer's standard bead samples consisting of strips of actual products showing full range of colors available, for each product exposed to view.
- D. Samples for Color Verification: Samples of each type and color of joint sealer required. Install joint sealer samples in 1/2 inch wide joints formed between two 6 inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealers in the Work.
- E. Provide a declaration that the VOC levels in all adhesives and sealants used in the installation of the vapor retarder products do not exceed the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168, AND all sealants used as fillers meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51

1.4 QUALITY ASSURANCE

- A. Applicable standards: Standards of the following, as referenced herein:
 - 1. ASTM C 920 Standard Specification for Elastomeric Joint Sealants.
- B. Preinstallation Meeting: The contractor shall arrange a meeting with installer, sealer manufacturers' field representative, and other trades whose work affects installation of sealers at project site to review procedures and time schedule proposed for installation of sealers which is coordinated with other related work.

1.5 WARRANTY

- A. Provide a warranty against defective equipment and workmanship in accordance with the requirements of the General Conditions of the Contract Documents.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to project site in original unopened containers or bundles with labels showing manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.7 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with installation of sealers under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside the limits permitted by sealer manufacturer or below 40 degrees F (4.4 degrees C).
 - 2. When substrates are wet due to rain, frost, condensation, or other causes.

- B. Joint Dimension Conditions: Do not proceed with installation of sealers when joint dimensions are less than recommended by joint sealer manufacturer for application indicated.

PART 2 - PRODUCTS

2.1 CAULKING

- A. Caulking Compound: One component, synthetic rubber base sealant, soft curing, nonstaining, conforming to F.S. TT-S-00230 and Thiokol's Building Trade Performance Specifications for Type 1 Class B sealants. Colors shall be selected by the Architect.
- B. Primer: As recommended by caulking compound manufacturer.
- C. Back-up Material: Closed cell foam polyethylene, or similar non-bituminous material as recommended by manufacturer of caulking compound and completely compatible with selected compound.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION AND INSTALLATION

- A. Remove dirt, grease, mortar droppings and other foreign matter from substrate.
- B. Require installer to inspect joints indicated to receive joint sealers for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not allow joint sealer work to proceed until unsatisfactory conditions have been corrected.

3.2 CAULKING

- A. Surface Preparation: Clean metal surfaces free of grease, oil, wax lacquer, and other foreign residue by wiping with a clean cloth moistened with a suitable solvent. Scrape or brush masonry surfaces clean. Apply appropriate primer to contact surfaces.
- B. Joint Preparation: Joints to be caulked having a depth in excess of 3/8-inch shall be packed with back-up material. Round back-up material shall be sized to require 20 percent to 50 percent compression upon insertion. In joints not of sufficient depth to allow packing, install polyethylene bond-breaking tape at back of joint. Avoid lengthwise stretching of back-up material. Cut all corners, avoid wrapping around corners.
- C. Application: Apply compound with pressure flow gun with nozzle of proper size and shape to suit width of joint, promptly after mixing and with sufficient pressure to fill joint. Apply as a continuous operation horizontally in one direction, and vertically from bottom to top, except joints having excessive widths where compound might sag, the joints shall be built up with successive beads. Finish joints smooth and slightly coved.

3.3 PROTECTION AND CLEANING

- A. Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of substantial completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

- B. Protect weep holes on window frames from being sealed over.

- C. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

END OF SECTION 07900

SECTION 09511

ACOUSTICAL PANEL CEILINGS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes acoustical panels and exposed suspension systems for ceilings.

1.3 SUBMITTALS

The following information shall be provided.

- A. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
- B. Product Data: For each type of product indicated.
- C. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below.
 - 1. Acoustical Panel: Set of 6-inch- square Samples of each type, color, pattern, and texture.
 - 2. Exposed Suspension System Members, Moldings, and Trim: Set of 12-inch-long Samples of each type, finish, and color.
- D. Maintenance Data: For finishes to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Source Limitations:

1. Acoustical Ceiling Panel: Obtain each type through one source from a single manufacturer.
 2. Suspension System: Obtain each type through one source from a single manufacturer.
- B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.6 COORDINATION

- A. Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Acoustical Ceiling Panels: Full-size panels equal to 2.0 percent of quantity installed.
 2. Suspension System Components: Quantity of each exposed component equal to 2.0 percent of quantity installed.
 3. Hold-Down Clips: Equal to 2.0 percent of quantity installed.

PART 2 PRODUCTS

2.1 ACOUSTICAL PANELS, GENERAL

- A. Acoustical Panel Standard: Provide manufacturer's standard panels of a type and configuration to match existing, non-damaged panels in the 8th floor as indicated on the Drawings.
- B. Broad Spectrum Antimicrobial Fungicide and Bactericide Treatment: Provide acoustical panels treated with manufacturer's standard antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no

mold, mildew, or bacterial growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274 or ASTM G 21

2.2 METAL SUSPENSION SYSTEMS, GENERAL

- A. Metal Suspension System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types and finishes to match existing, non-damaged suspension system in the 8th floor as indicated on the Drawings.
- B. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 2. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch-diameter wire.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION

- A. General: Install acoustical panel ceilings to comply with ASTM C 636 and seismic design requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Space hangers not more than 48 inches o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.

- C. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members

3.4 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09511

SECTION 09911

PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Condition and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on miscellaneous exterior elements shown plans and/or indicated in a prebid conference for the following exterior substrates:
 - 1. Steel.
 - 2. Galvanized metal.
 - 3. Plastic trim.
 - 4. Concrete Surfaces
- B. Related Sections include the following:
 - 1. Division 7 Sections for shop priming of metal substrates with primers specified in this Section.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of topcoat product indicated.
- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.4 QUALITY ASSURANCE

- A. MPI Standards:
 - 1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
 - 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
- B. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Architect will designate items or areas required.
 2. Final approval of color selections will be based on benchmark samples.
 - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.
- 1.6 PROJECT CONDITIONS
- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
 - B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- 1.7 EXTRA MATERIALS
- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Benjamin Moore & Co.
 2. Behr Process Corp.
 3. Duron, Inc.
 4. PPG Architectural Finishes, Inc.
 5. Sherwin-Williams Company (The).
 6. ThermaCote

2.2 PAINT, GENERAL

- A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. Colors: As selected by Architect from manufacturer's full range.
- 2.3 BLOCK FILLERS
- A. Interior/Exterior Latex Block Filler: MPI #4.
1. VOC Content: E Range of E3.
- 2.4 PRIMERS/SEALERS
- A. Alkali-Resistant Primer: MPI #6.
1. VOC Content: E Range of E2.
- B. Bonding Primer (Water Based): MPI #17.
1. VOC Content: E Range of E3.
- 2.5 METAL PRIMERS
- A. Alkyd Anticorrosive Metal Primer: MPI #79.
1. VOC Content: E Range of E2.
- B. Quick-Drying Alkyd Metal Primer: MPI #76.
1. VOC Content: E Range of E3.
- C. Waterborne Galvanized-Metal Primer: MPI #134.
1. VOC Content: E Range of E3.
 2. Environmental Performance Rating: EPR 3.
- D. Quick-Drying Primer for Aluminum: MPI #95.
1. VOC Content: E Range of E3.
- 2.6 EXTERIOR LATEX PAINTS
- A. Exterior Latex (Flat): MPI #10 (Gloss Level 1).
1. VOC Content: E Range of E3.
- B. Exterior Latex (Semigloss): MPI #11 (Gloss Level 5).
1. VOC Content: E Range of E1.
- C. Exterior Latex (Gloss): MPI #119 (Gloss Level 6, except minimum gloss of 65 units at 60 deg).
1. VOC Content: E Range of E3.
- 2.7 EXTERIOR ALKYD PAINTS
- A. Exterior Alkyd Enamel (Flat): MPI #8 (Gloss Level 1).
1. VOC Content: E Range of E1.
- B. Exterior Alkyd Enamel (Semigloss): MPI #94 (Gloss Level 5).
1. VOC Content: E Range of E1.
- C. Exterior Alkyd Enamel (Gloss): MPI #9 (Gloss Level 6).
1. VOC Content: E Range of E1.
- 2.8 QUICK-DRYING ENAMELS
- A. Quick-Drying Enamel (Semigloss): MPI #81 (Gloss Level 5).
1. VOC Content: E Range of E2.
- B. Quick-Drying Enamel (High Gloss): MPI #96 (Gloss Level 7).
1. VOC Content: E Range of E3.

2.9 SINGLE STAGE SPRAY APPLIED CERAMIC COATING

- A. Quick-Drying Ceramic Coating
 - 1. VOC Content: 0.0099 lbs/gal..
- B. Envelope
 - 1. Air Permeance: ASTM G-53 0.0001. L/(sq-m) at 75 Pa
 - 2. Flame Spread ANSI/UL 723 0
 - 3. Smoke Developed ANSI/UL 723 5
 - 4. Moisture Vapor Barrier ASTM D-1653 0.0755
 - 5. Water Vapor Permeance ASTM E-96 3.617 perms
(Desiccant Method)
 - 6. Water Vapor Permeance ASTM E-86 6.779 perms
(Water Method)
 - 7. Elongation (Elasticity) ASTM D-882 65%

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Masonry (Clay and CMU): 12 percent
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.
- E. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

- F. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
 - 2. Testing agency will perform tests for compliance of paint materials with product requirements.
 - 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

- A. Steel Substrates:
 - 1. Quick-Drying Enamel System: MPI EXT 5.1A.
 - a. Prime Coat: Quick-drying alkyd metal primer.

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- b. Intermediate Coat: Quick-drying enamel matching topcoat.
 - c. Topcoat: Quick-drying enamel (semigloss).
 - 2. Alkyd System: MPI EXT 5.1D.
 - a. Prime Coat: Alkyd anticorrosive metal primer.
 - b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
 - c. Topcoat: Exterior alkyd enamel flat
- B. Galvanized-Metal Substrates:
 - 1. Latex System: MPI EXT 5.3A.
 - a. Prime Coat: Cementitious galvanized-metal primer.
 - b. Intermediate Coat: Exterior latex matching topcoat.
 - c. Topcoat: Exterior latex (semigloss).
 - 2. Latex Over Water-Based Primer System: MPI EXT 5.3H.
 - a. Prime Coat: Waterborne galvanized-metal primer
 - b. Intermediate Coat: Exterior latex matching topcoat
 - c. Topcoat: Exterior latex (semigloss).
 - 3. Alkyd System: MPI EXT 5.3B.
 - a. Prime Coat: Cementitious galvanized-metal primer.
 - b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
 - c. Topcoat: Exterior alkyd enamel (semigloss).
- C. Plastic Trim Fabrication Substrates:
 - 1. Latex System: MPI EXT 6.8A.
 - a. Prime Coat: Bonding primer (water based).
 - b. Intermediate Coat: Exterior latex matching topcoat.
 - c. Topcoat: Exterior latex (flat).
 - 2. Latex Over Alkali-Resistant Primer System: MPI EXT 9.1J.
 - a. Prime Coat: Alkali-resistant primer.
 - b. Intermediate Coat: Exterior latex matching topcoat.
 - c. Topcoat: Exterior latex (flat).
- D. Exposed Concrete (at Sky Lites – Interior and Exterior)
 - 1. Single Stage, Spray Applied, High Performance, Ceramic Coating, Air and Water Sealer.

END OF SECTION 09911

SECTION 13281

REMOVAL OF ASBESTOS CONTAINING MATERIAL

1.1 GENERAL

A. Description of Work

1. The work covered by this section includes the handling and control of asbestos containing materials and describes some of the resultant procedures and equipment required to protect workers, the environment and occupants of the building or area, or both, from contact with airborne asbestos fibers. The work also includes the disposal of any asbestos containing materials generated by the work. More specific operational procedures shall be outlined in the Asbestos Hazard Abatement Plan called for elsewhere in this specification. The asbestos work includes the use of non-friable removal technique(s) which is governed by 40 CFR 763 as indicated. Provide non-friable removal technique(s) as outlined in this specification for the locations indicated in the Raymond Engineering Report August 6, 2013, Project No. 1329.001, which is part of this contract and is included for review and use.

B. Summary

1. This Section includes the following:
 - a. Encapsulation, demolition and removal of asbestos material at base flashings
 - b. Safe handling, storing and disposal of asbestos waste materials.
 - c. Records of legally disposed of waste materials.

C. Submittals

1. Submit copies of training certificates for each employee indicating that the employee has received training at the appropriate level in accordance with 40 CFR 763.
2. Submit a detailed plan of the safety precautions such as lockout, tag-out, tryout, fall protection, and confined space entry procedures and equipment and work procedures to be used in the removal of materials containing asbestos.
 - a. The plan shall be prepared by the Contractor (and reviewed and signed by an asbestos consultant (LAC) licensed according to the Statutes of the State Georgia for review and recommendation for approval by the Owner.
 - b. The plan shall be forwarded to the Owner for final approval at least 10 days prior to beginning abatement activities.
 - c. The plan shall include but not be limited to the detailed description of personal protective equipment and work practices to be used including, but not limited to, respiratory protection, type of whole-body protection, the location of asbestos control areas including clean and dirty areas, buffer zones, showers, storage areas, change rooms, removal method, interface of

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trades involved in the construction, sequencing of asbestos related work, disposal plan, type of wetting agent and asbestos encapsulant to be used, locations of local exhaust equipment, planned air sampling strategies, and a detailed description of the method to be employed in order to control environmental pollution.

- d. The plan shall also include both fire and medical emergency response plans. The Asbestos Hazard Abatement Plan must be approved in writing prior to starting any asbestos work.
3. Landfill Approval: Submit written evidence that the landfill for disposal is approved for asbestos disposal by the USEPA and State and local regulatory agency(s).
4. Waste Shipment Records/Asbestos Waste Manifest: Submit waste shipment records and/or asbestos manifest records, prepared in accordance with applicable Federal, State, or local regulations, signed and dated by an agent of the landfill, certifying the amount of asbestos materials delivered to the landfill, within 3 days after delivery.
5. Contractor Daily Reports: Prepare a written report for each day that asbestos work is being accomplished. The report should be submitted to the Owner monthly. The report as a minimum shall include the following:
 - a. Daily Visual Inspection Reports: Prepare a written report documenting compliance with the Asbestos Hazard Abatement Plan and Federal, State, or local regulations.
 - b. Asbestos Disposal Quantity Report: The Contractor shall record and report daily the amount of asbestos containing material removed and the amount transported for disposal.
 - c. Deliver the report for the previous day and cumulative totals with amounts of material removed reported in linear feet or square feet as described initially in this specification and the amounts of material transported for disposal reported in cubic yards.

2.1 PRODUCTS

- A. Encapsulants: Provide a wetting agent to chemically entrap asbestos fibers to prevent these fibers from becoming airborne before they are removed.

3.1 EXECUTION

- A. Provide personnel engaged in pre-cleaning, cleanup, handling, and removal of asbestos containing materials with the appropriate respiratory protection as specified in 29 CFR 1910.134. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH).
- B. Provide personnel exposed to asbestos with disposable "non-breathable," or reusable "non-breathable" whole body outer protective clothing, head coverings, gloves, and foot coverings. Provide disposable plastic or rubber

gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Make sleeves secure at the wrists, make foot coverings secure at the ankles, and make clothing secure at the neck by the use of tape. Reusable whole body outer protective clothing shall be either disposed of as asbestos contaminated waste upon exiting from the asbestos regulated work area or be properly decontaminated.

- C. Eye Protection: Provide goggles to personnel engaged in asbestos abatement operations when the use of a full face respirator is not required.
- D. Warning Signs and Labels: Provide bilingual warning signs printed in English and Spanish at all approaches to asbestos control areas. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos.
 - a. Warning Sign: Provide vertical format conforming to 29 CFR 1926.1101, minimum 20 by 40 inches displaying the following legend:
Danger: Asbestos (one Inch)
Cancer and Lung Disease Hazard (one Inch)
Authorized Personnel Only (1/4 inch)
Respirators and Protective Clothing are (1/4 inch)
Required in this Area. (1/4 inch)
 - b. Warning Label: Provide labels conforming to 29 CFR 1926.1101, of sufficient size to be clearly read displaying the following legend:
Danger Contains Asbestos Fibers
- E. Pre-Asbestos Work Conference: The Contractor/Supervisor shall meet with the Owner's Project Manager, to review the asbestos removal plan. will be enforced as if a part of this specification. Any changes required in the specification as a result of the plan shall be identified specifically in the plan to allow for free discussion and approval by the Owners Engineer prior to starting work.
- F. The Contractor shall demarcate the asbestos control area(s) using physical barriers and signs to prevent access by unauthorized personnel. This area is defined by 29 CFR 1926.1101 as the regulated area.
- G. Work Procedure: Perform asbestos related work in accordance with 29 CFR 1926.1101, 40 CFR 61-SUBPART M, applicable State or local regulation, and as specified herein. Use wet removal procedures. Personnel shall wear and utilize protective clothing and equipment as specified herein. Eating, smoking, drinking, chewing gum or tobacco, or applying cosmetics shall not be permitted in the asbestos control area(s). Personnel of other trades not engaged in the removal of asbestos containing material shall not be exposed at any time to airborne concentrations of asbestos. If an asbestos fiber release or spill, stop work immediately, correct the condition to the satisfaction of the Owners

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Engineer, including clean-up and clearance sampling, if appropriate, prior to resumption of work.

- H. Removal Procedures: Wet asbestos containing material with a fine spray of amended water during removal, cutting, or other handling so as to reduce the emission of airborne fibers. Remove material and immediately place in 0.15 mm 6 mil plastic disposal bags. Remove asbestos containing material in a gradual manner, with continuous application of the amended water in such a manner that no asbestos material is disturbed prior to being adequately wetted.
- I. Housekeeping
 - 1. Essential parts of asbestos dust control are housekeeping and clean-up procedures. Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers.
 - a. Give meticulous attention to restricting the spread of dust and debris; keep waste from being distributed over the general area. Use HEPA filtered vacuum cleaners. **DO NOT BLOW DOWN THE SPACE WITH COMPRESSED AIR.**
 - b. All asbestos waste shall be placed in an approved on-site storage facility or transported for disposal daily.
 - c. When asbestos removal is complete, all asbestos waste is removed from the work-site, and final clean-up is completed, the PQP shall visually inspect the asbestos control area for cleanliness.
 - d. After final clean-up remove all pre-filters on the building HVAC system and provide new pre-filters.
 - e. Dispose of filters as asbestos contaminated materials.
 - f. Reestablish HVAC, mechanical, and electrical systems in proper working order.
 - 2. Title to Materials: All waste materials, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified in applicable Federal, State, and local regulations and herein.
 - 3. Disposal of Asbestos
 - a. Collect all removed asbestos containing material, contaminated materials, contaminated water, scrap, debris, bags, containers, expendable equipment, and asbestos contaminated clothing which may produce airborne asbestos fibers and place in sealed fiber-proof, waterproof, non-returnable containers (e.g. double plastic bags 0.15 mm 6 mils thick, cartons, drums or cans). Wastes within the containers must be adequately wet in accordance with 40 CFR 61-SUBPART M. Affix a warning and Department of Transportation (DOT) label to each container including the bags or use at least 0.15 mm 6 mils thick bags with the approved warnings and DOT labeling preprinted on the bag.
 - b. Each container or bag shall clearly indicate that the waste generator is the Owner and the development at which the waste is generated, and the Job Order number of the project.

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- c. Dispose of waste asbestos material at an Environmental Protection Agency (EPA) or State-approved asbestos landfill off the Owner's property.
- d. Procedure for hauling and disposal shall comply with 40 CFR 61-SUBPART M, State, regional, and local standards.
- e. Sealed plastic bags may be dumped from drums into the burial site unless the bags have been broken or damaged.
- f. Damaged bags shall remain in the drum and the entire contaminated drum shall be buried.
- g. Uncontaminated drums may be recycled.
- h. Workers unloading the sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

END OF SECTION 13281

SECTION 15086

DRAIN PIPE LINING and STRAINERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Contractor shall furnish all labor, materials, equipment and incidentals required to test existing roof storm water drainage systems for leakage. Provide for demolishing existing roof strainers and bodies and replacing with new. Provide for drain reconstruction of pipelines and conduits that are determined to leak by the installation of a resin-impregnated flexible tube that is either inverted or pulled into the original pipeline/conduit and expanded to fit tightly against said pipeline by the use of water or air pressure. The resin system shall then be cured by elevating the temperature of the fluid (water/air) used for the inflation to a sufficient enough level for the initiators in the resin to effect a thermosetting reaction

1.2 REFERENCES

- A. Standards of the following as referenced:
 - 1. ASTM D5813 (Standard Specification for Cured-in-Place Thermosetting Resin Sewer Pipe)
 - 2. ASTM F1216 (Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube)
 - 3. ASTM F1743 (Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-In-Place Installation of Cured-In-Place Thermosetting Resin Pipe).

1.3 QUALIFICATION REQUIREMENTS

- A. Products and Installers seeking approval must meet all of the following criteria to be deemed commercially acceptable:
 - 1. A minimum of 50,000 linear feet and/or 300 line sections must have been successfully installed.
 - 2. The Installer must have at least five years active experience in the commercial installation of the product bid.
 - 3. The Installer's key personnel shall have at least 100,000 linear feet and/or 300 line sections of successful experience.

1.4 SUBMITTALS

A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification

requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

- A. Product data:
 - 1. Manufacturer’s specifications.
 - 2. Installation instructions
- B. Certifications
 - 1. Manufacturer’s certification that the materials to be used meet the referenced standards and these specifications.
 - 2. License or certificate verifying Manufacturer’s/Licensors approval of the installer.
- C. Shop Drawings: Roof plan showing layout of roof drains, laterals and vertical pipes to be lined.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Storage and handling:
 - 1. Store materials under cover, off ground: protect from moisture.
 - 2. Deliver insulation in packages labeled with material name, thermal value and product code.
 - 3. When stored outdoors, stack on pallets above ground or roof deck and cover with tarpaulin or other suitable waterproof coverings.

1.6 PROJECT CONDITIONS

- A. Do not install lining when weather conditions are unsuitable for proper curing of the resin.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. The Tube
 - 1. The tube shall consist of one or more layers of a flexible needled felt or an equivalent nonwoven or woven material, or a combination of nonwoven and woven materials, capable of carrying resin and withstanding the installation pressures and curing temperatures.
 - 2. The tube should be compatible with the resin system to be used on this project.
 - 3. The material should be able to stretch to fit irregular pipe sections and negotiate bends.
 - 4. The tube should be fabricated to a size that, when installed, will tightly fit the internal circumference and the length of the original conduit.
 - 5. Any plastic film applied to the tube on what will be finished CIPP shall be compatible with the resin system used, translucent enough that the resin is clearly visible, and shall be firmly bonded to the felt material.
- B. The Resin System
 - 1. The Resin System. The resin system shall be a corrosion resistant epoxy and catalyst system that when properly cured meets the minimum requirements given herein or those that are to be utilized in the design of the CIPP for this project.
- C. Acceptable manufacturers, subject to compliance with specified requirements:
 - 1. Bradenton Pipe Lining Company
 - 2. BlueWorks, Inc.

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3. Engineered Lining Systems, Inc.
4. Enviro-Flow Pipe and Conduit Services, Ltd.
5. Fletch-Barney, LLC
6. Nu Flo

D. Drain Strainers and Bodies

1. Roof Drains: The drains shall replace the existing drains and to be compatible with the existing drain connections. The drains shall be dome type, cast iron designed for use with rigid insulation and shall have anchor flange and membrane clamp of tongue and groove design to securely grip the membrane and roof flashing material.

E. Acceptable manufacturers, subject to compliance with specified requirements include:

1. MIFAB
2. J. R. Smith
3. Josam
4. Sioux Chief

PART 3 - EXECUTION

3.1 TESTING

- A. General: All testing shall be performed by experienced personnel in compliance with city, state and federal regulations. Suitably brace horizontal section of drains to prevent horizontal movement. This must be done by the use of a brace, block, rodding or other suitable method, to prevent movement or joint separation.
- B. Isolate each floor or section being tested by inserting plugs into the test tees in the stacks. Plug all other openings with test plugs.
- C. Slowly fill the system with water at its highest point. Water test with ten feet of hydrostatic pressure (4.3 pounds per square inch).
- D. Allow any trapped air to escape as the water level rises. Note: Failure to remove entrapped air may cause faulty test results.
- E. After filling the stack to ten feet of head, visually inspect the section being tested for any leaks around its joints.
- F. Water test each portion of the system for 15 minutes and determine if there is a drop in water level indicating a leak.
- G. After a successful test, drain the system and prepare the next section for testing

3.2 INSTALLATION

- A. General: The CIPP shall be installed in accordance with the practices given in ASTM F1216 or ASTM F1743.
- B. Resin: The quantity of resin used for the tube's impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances being made for polymerization shrinkage and the

anticipated loss of any resin through cracks and irregularities in the original pipe wall.

- C. Temperature: Temperature gauges shall be placed at the upstream and downstream ends of the reach being lined to monitor the pressurized fluid's (air or water) temperature.
- D. Curing: Curing of the resin system shall be as per the Manufacturer (Licensor) of the CIPP product. The temperatures achieved and the duration of holding the pressurized fluid at those temperatures shall be per the Manufacturer's (Licensor's) established procedures.

3.3 EXAMINATION

- A. The interior of the pipe-line shall be carefully inspected to determine the location of any conditions that may prevent proper installation of the CIPP into the pipelines, and it shall be noted so that these conditions may be corrected
- B. A videotape and suitable log shall be kept for later reference by the Owner.
- C. Start of installation indicates installer accepts conditions of existing drain lines.

3.4 QUALITY ASSURANCE PROCEDURES

- A. Contractor shall post-TV the completed work. The television inspection should be used to confirm tightness of the fit of the CIPP to the host pipe and to identify any imperfections.
- B. The finished liner shall be continuous over its entire length and be free from visual defects such as foreign inclusions, dry spots, pinholes, and delamination.

3.5 CLEANING / PROTECTION

- A. Remove trash and construction debris from the roof.
- B. Broom clean the site adjacent to the roof drains in preparation for the work of the next trade.

END OF SECTION 15086

SECTION 16290

LIGHTNING PROTECTION SYSTEM- STRUCTURAL STEEL BUILDINGS

PART 1 - GENERAL

- 1.1. Objective: To provide safety for the building and occupants by eliminating damage to the structure caused by lightning, surges and other related occurrences. These specifications apply to Class I & Class II Type Structures where the structural steel will be used in lieu of down lead or vertical cables.
- 1.2. Standards: The following specifications and standards part of this specification:
 - A. Underwriters Laboratories, Inc., (*UL*)
Installation Requirements for Lightning Protection Systems, UL 96A
 - B. Underwriters Laboratories, Inc., (*UL*)
Lightning Protection Components, UL 96
 - C. National Fire Protection Association, (*NFPA*)
Standard for the Installation of Lightning Protection Systems, NFPA 780
 - D. Lightning Protection Institute, (*LPI*)
LPI Standard of Practice, LPI-175
- 1.3. System Design: The work covered under this section of the specifications consists of furnishing labor, materials and services required for the completion of a functional and inconspicuous lightning protection system approved by the architect and engineer. The design of this system is to be in strict accordance with this section of the specifications and all contract drawings that apply.

If any departure from the contract drawings or submittal drawings covered below are deemed necessary by the Contractor, details of such departures and reasons therefore shall be submitted as soon as practical to the architect and engineer for approval.
- 1.4. Submittals: Complete design submittal drawings showing the type, size, and location of all grounding, roof conductors, down conductors, through-roof connectors and air terminals shall be submitted to the architect and engineer for approval prior to the commencement of work.
 - A. Provide unit prices for material and labor for air terminals, bases and cable supports. Provide linear foot price for material and labor of cables. The drawings indicate the location of new and damaged materials for conditions at the time the design was completed. As work is uncovered less or more material may be required and an adjustment to the contract fee will be made on the basis of unit prices.
- 1.5. Quality Assurance: The lightning protection system shall conform to the requirements and standards for lightning protection systems in accordance with UL, NFPA and LPI. Upon completion of the installation, application shall be made to the Underwriters Laboratories, Inc.

for issuance of the UL Master Label C. Upon receipt of the UL Master Label C from Underwriter Laboratories, said Label will be presented to the owner or the owner’s representative.

- A. Installer Qualifications: Certified by **LPI as a Master Installer/Designer**, trained and approved for installation of units required for this Project.
- B. System Certificate:
 - 1. UL Master Label.
 - 2. LPI System Certificate.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 780, "Definitions" Article.

PART 2 – PRODUCTS

- 2.1 Standard: The system furnished under this specification shall be the standard product of a manufacturer regularly engaged in the production of lightning protection equipment and shall be the manufacturer’s latest approved design. All equipment shall be UL listed and properly UL labeled. All equipment shall be new, and of a design and construction to suit the application where it is to be used in accordance with accepted industry standards and in accordance with UL, NFPA and LPI requirements.
- 2.2 Equipment: Provide and install a complete lightning protection system in compliance with the specifications and standards of the most current editions of the UL-96A, NFPA-780 and LPI-175. The system shall be installed by a lightning protection contractor who is listed by the Underwriters Laboratories, Inc. and a member in good standing of the Lightning Protection Institute.

MANUFACTURER:
 Independent Protection Co., Inc. – Goshen, Indiana
 Ph: 800.860.8388

(Or approved equal)

- 2.3 Materials: All lightning protection materials and components shall comply in weight, size and composition with UL 96, NFPA-780 and LPI-175 lightning protection material requirements for this type of structure. All materials shall be copper/bronze. Aluminum components shall be used in locations where system components are mounted to aluminum surfaces to avoid galvanic corrosion of dissimilar metals. All bolts, nails and screws are to be stainless steel. Class I materials shall be used on structures not more than 75 feet in height; Class II materials shall be used on structures 75 feet and higher.

Class II Minimum material requirements are as follows:

- Copper Conductor: IPC #40, No. 1/0 Size, 375 pounds per 1000’, 28 strand of .066” diameter wire, 122,000 circular mils.
- Copper Air Terminals: IPC #331, 1/2” diameter by 12” long solid copper.
- Aluminum Conductor: IPC #A30, No. 4/0 Size, 200 pounds per 1000’, 37 strand of .0756” diameter wire, 211,600 circular mils.

Aluminum Air Terminals: IPC #A332, 5/8" diameter by 12" long solid aluminum.

Ground Rods: IPC #577, 5/8" x 10' long copper weld.

Fittings and Fasteners: In accordance with the standards all fittings and fasteners must be bolt type. No crimp type fittings are to be used. (ie IPC #303, 304, 297A, 121A, A121A, 265P, A265P, 123, A123, etc.)

PART 3 - EXECUTION

- 3.1 Installation: An experienced installation company that is listed with Underwriters Laboratories for lightning protection installation and a member in good standing of the Lightning Protection Institute shall accomplish the installation. All equipment shall be installed in a neat, workmanlike manner. The system shall consist of a complete network of conductor cables at the roof and include air terminals, connectors, splicers, appropriate bonding, and proper ground terminals. The existing lightning protection system shall be evaluated and upgraded to comply with the current LPI requirements.
- 3.2 The structural steel framing will be used, in lieu of cables, as the down conductor for this system. Connection to the steel at the roof level will be made with approved roof penetrations spaced at intervals no to exceed 100'. Connection to the steel at the foundation will be made with approved bonding plates at every other column or intervals not to exceed 60'. All connections to steel will be made with an approved 8 square inch bonding plate (IPC #238B, #235W, etc.). The lightning protection vendor shall confirm that the existing grounding system is operational and measure the ground resistance for the designed down conductor connections.
- 3.3 Corrosion Protection
 - A. Do not combine materials that can form an electrolytic couple that will accelerate corrosion in the presence of moisture unless moisture is permanently excluded from junction of such materials.
 - B. Use conductors with protective coatings where conditions cause deterioration or corrosion of conductors.
- 3.4 Coordination: The lightning protection contractor will work with other trade contractors to ensure a correct, neat and inconspicuous installation. It shall be the responsibility of the lightning protection contractor to assure a proper bond to the appropriate grounded utilities; such as the electric service ground, telephone ground, incoming water and gas pipe, etc.

Note: The roofing contractor will be responsible for sealing and flashing all lightning protection roof penetrations as per the roof manufacturer's recommendations. The Lightning Protection roof penetrations and/or method of conductor attachment should be addressed in the roofing section of the specifications.

Note: The existing lightning protection system shall remain operational and protect the building structure during all phases of the building reroof project. The lightning protection vendor shall coordinate with the roofing contractor for phasing of the reroof project.

Section – 16290 –Lightning Protection System - Structural Steel Buildings

- 3.5 Inspection and Certification: Upon completion of the installation, the contractor shall furnish the Master Label C issued by Underwriters Laboratories, Inc. for this system. If the protected structure is an addition to or is attached to an existing structure that does not have a lightning protection system, the contractor shall advise the Owner of installation requirements on the existing structure to obtain the Master Label C.

- 3.6 Field Quality Control:
 - A. Notify Architect at least 48 hours in advance of inspection before concealing lightning protection components.
 - B. LPI System Inspection: Meet requirements to obtain an LPI System Certificate.

END OF SECTION 16290

Insurance and Risk Management Provisions Central Library Roof Replacement

It is Fulton County Government's practice to obtain Certificates of Insurance from our Contractors and Vendors. Insurance must be written by a licensed agent in a company licensed to write insurance in the State of Georgia, with an A.M. Best rating of at least A- VI, subject to final approval by Fulton County. Respondents shall submit with the bid/proposal evidence of insurability satisfactory to Fulton County Government as to form and content. Either of the following forms of evidence is acceptable:

- A letter from an insurance carrier stating that upon your firm/company being the successful Bidder/Respondent that a Certificate of Insurance shall be issued in compliance with the Insurance and Risk Management Provisions outlined below.
- A Certificate of Insurance complying with the Insurance and Risk Management Provisions outlined below (Request for Bid/Proposal number and Project Name, Number and Description must appear on the Certificate of Insurance).
- A combination of a specific policy written with an umbrella policy covering liabilities in excess of the required limits is acceptable to achieve the applicable insurance coverage levels.

Upon award, the Contractor/Vendor must maintain at their expense, insurance with policy limits equal to or greater than the limits described below. Proof of insurance must be provided to Fulton County Government prior to the start of any activities/construction as described in the bid document(s). Any and all Insurance Coverage(s) and Bonds required under the terms and conditions of the contract shall be maintained during the entire length of the contract, including any extensions or renewals thereto, and until all work has been completed to the satisfaction of Fulton County Government.

Accordingly the Respondent shall provide a certificate evidencing the following:

1. WORKERS COMPENSATION/EMPLOYER'S LIABILITY INSURANCE – STATUTORY (In compliance with the Georgia Workers Compensation Acts, including but not limited to U.S. Longshoremens and Harbor Workers Act and any other State or Federal Acts or Provisions in which jurisdiction may be granted)

Employer's Liability Insurance	BY ACCIDENT	EACH ACCIDENT	\$1,000,000
Employer's Liability Insurance	BY DISEASE	POLICY LIMIT	\$1,000,000
Employer's Liability Insurance	BY DISEASE	EACH EMPLOYEE	\$1,000,000

2. COMMERCIAL GENERAL LIABILITY INSURANCE (Including contractual Liability Insurance)

Bodily Injury and Property Damage Liability (Other than Products/Completed Operations)General Aggregate	Each Occurrence	\$1,000,000
		\$2,000,000
Products\Completed Operation	Aggregate Limit	\$2,000,000
Personal and Advertising Injury	Limits	\$1,000,000
Damage to Rented Premises	Limits	\$100,000

*General Liability Policy to include the following:

- Policy to provide evidence of X, C, U coverage.

Central Library Roof Replacement Project

- Policy to have no exclusion for demolition work.

3. BUSINESS AUTOMOBILE LIABILITY INSURANCE

Bodily Injury and Property Damage Each Occurrence \$1,000,000

(Including operation of non-owned, owned, and hired automobiles).

*Broadened Pollution Endorsement CA9948 and MCS 90

4. UMBRELLA LIABILITY Per Occurrence/Aggregate \$1,000,000/\$1,000,000

5. CONTRACTORS POLLUTION LIABILITY Each Occurrence \$1,000,000

Or by endorsement to General Liability Policy for sudden and accidental

- Whereas asbestos abatement and removal operations shall be required by this contract, Pollution Policy to provide asbestos/lead abatement coverage on an Occurrence basis.
- Abatement operations to be performed by a qualified state licensed abatement contractor.
- To include two (2) years of extended Completed Operations coverage or a two (2) year extended reporting period.

Certificates of Insurance

The aforementioned insurance policies shall contain or be endorsed to contain a Provision that coverage afforded under such policies shall not expire, be cancelled or altered without at least thirty (30) days written notice Fulton County Government. Certificates of Insurance are to list Fulton County Government as an Additional Insured (except for Workers' Compensation), using ISO form CG 2010 (11/85 version), its' equivalent or on a blanket basis.

This Contractor/Vendor insurance shall apply as Primary Insurance before any other insurance or self-insurance, including any deductible, non-contributory, and Waiver of Subrogation provided in favor of Fulton County Government.

If Fulton County Government shall so request, the Respondent, Contractor or Vendor will furnish the County for its inspection and approval such policies of insurance with all endorsements, or confirmed specimens thereof certified by the insurance company to be true and correct copies.

Additional Insured under the General Liability, Auto Liability, Umbrella Policies (with exception of Workers Compensation and Professional Liability), with no Cross Suits exclusion.

Important:

It is understood that neither failure to comply nor full compliance with the foregoing insurance requirements shall limit or relieve the Contractor/Vendor from any liability incurred as a result of their activities/operations in conjunction with the Contract and/or Scope of Work.

USE OF PREMISES

Contractor/Vendor shall confine its apparatus, the storage of materials and the operations of its workers to limits/requirements indicated by law, ordinance, permits and any restrictions of Fulton County Government and shall not unreasonably encumber the premises with its materials (Where applicable).

PROTECTION OF PROPERTY

Contractor/Vendor will adequately protect its own work from damage, will protect Fulton County Government's property from damage or loss and will take all necessary precautions during the progress of the work to protect all persons and the property of others from damage or loss.

Contractor/Vendor shall take all necessary precautions for the safety of employees of the work and shall comply with all applicable provisions of the Federal, State and local safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where work is being performed.

Contractor/Vendor shall erect and properly maintain at all times as required by the conditions and progress of the work, all necessary safeguards for the protection of its employees, Fulton County Government employees and the public and shall post all applicable signage and other warning devices to protect against potential hazards for the work being performed (Where applicable).

CONTRACTOR/VENDOR ACKNOWLEDGES HAVING READ, UNDERSTANDING, AND AGREEING TO COMPLY WITH THE AFOREMENTIONED REQUIREMENTS AND THAT THE REPRESENTATIVE OF THE CONTRACTOR/VENDOR IDENTIFIED BELOW IS AUTHORIZED TO SIGN CONTRACTS ON BEHALF OF THE RESPONDING CONTRACTOR/VENDOR.

COMPANY: _____ SIGNATURE: _____

NAME: _____ TITLE: _____

DATE: _____

PURCHASING FORMS & INSTRUCTIONS

This section contains the procurement forms that are required to be executed and submitted with the bid package. This section does not contain all forms required to be included with the bid package submittal.

To be deemed responsive to this ITB, Bidders must provide the information requested and complete in detail all Purchasing Forms. The appropriate individual(s) authorized to commit the Bidder to the Project must sign the Purchasing Forms. Bidders should reproduce each Purchasing Form, as required, and complete the appropriate portions of the forms provided in this section.

- Form A: Non-Collusion Affidavit of Prime Bidder/Offeror
- Form B: Certificate of Acceptance of Request for Bid/Proposal Requirements
- Form C: Professional License Certifications (***not applicable***)
 - Form C1 – Georgia Utility License Contractor License
 - Form C2 – Georgia General Contractors License
 - Form C3 – Georgia Professional License
- Form D: Certification Regarding Debarment
- Form E: Disclosure Form and Questionnaire
- Form F: Georgia Security and Immigration Contractor Affidavit and Agreement
- Form G: Georgia Security and Immigration Subcontractor Affidavit

FORM A: NON-COLLUSION AFFIDAVIT OF BIDDER/OFFEROR

STATE OF GEORGIA

COUNTY OF FULTON

I, _____ certify that pursuant to Fulton County Code Section 102-397, this bid or proposal is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same work, labor or service to be done or the supplies, materials or equipment to be furnished and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of state and federal law and can result in fines, prison sentences and civil damages awards. I agree to abide by all conditions of this bid or proposal and certify that I am authorized to sign this bid or proposal for the bidder.

Affiant further states that pursuant to O.C.G.A. Section 36-91-21 (d) and (e), _____ has not, by itself or with others, directly or indirectly, prevented or attempted to prevent competition in such bidding or proposals by any means whatsoever. Affiant further states that (s)he has not prevented or endeavored to prevent anyone from making a bid or offer on the project by any means whatever, nor has Affiant caused or induced another to withdraw a bid or offer for the work.

Affiant further states that the said offer of _____ is bona fide, and that no one has gone to any supplier and attempted to get such person or company to furnish the materials to the bidder only, or if furnished to any other bidder, that the material shall be at a higher price.

(COMPANY NAME)

(PRESIDENT/VICE PRESIDENT)

Sworn to and subscribed before me this _____ day of _____, 20__.

(SECRETARY/ASSISTANT SECRETARY)

(Affix corporate seal here, if a corporation)

Notary Public: _____

County: _____

Commission Expires: _____

NOTE:

IF THE OFFEROR IS A PARTNERSHIP, ALL OF THE PARTNERS AND ANY OFFICER, AGENT, OR OTHER PERSON WHO MAY HAVE REPRESENTED OR ACTED FOR THEM IN BIDDING FOR OR PROCURING THE CONTRACT SHALL ALSO MAKE THIS OATH.

IF THE OFFEROR IS A CORPORATION, ALL OFFICERS, AGENTS, OR OTHER PERSONS WHO MAY HAVE ACTED FOR OR REPRESENTED THE CORPORATION IN BIDDING FOR OR PROCURING THE CONTRACT SHALL MAKE THE OATH.

FORM B: FULTON COUNTY CERTIFICATE OF ACCEPTANCE OF BID/PROPOSAL REQUIREMENTS

This is to certify that on this day, offeror acknowledges that he/she has read this solicitation document, pages # _____ to # _____ inclusive, including any addenda # _____ to # _____ exhibit(s) # _____ to # _____, attachment(s) # _____, and/or appendices # _____ to # _____ in its entirety, and agrees that no pages or parts of the document have been omitted, that he/she understands, accepts and agrees to fully comply with the requirements therein, and that the undersigned is authorized by the offeror to submit the proposal herein and to legally obligate the offeror thereto.

This is also to certify that the offeror has reviewed the form Fulton County contract included in the solicitation documents and agrees to be bound by its terms, or that the offeror certifies that it is submitting any proposed modification to the contract terms with its proposal. The offeror further certifies that the failure to submit proposed modifications with the proposal waives the offeror's right to submit proposed modifications later. The offeror also acknowledges that the indemnification and insurance provisions of Fulton County's contract included in the solicitation documents are non-negotiable and that proposed modifications to said terms may be reason to declare the offeror's proposal as non-responsive.

Company: _____

Signature: _____

Name: _____

Title: _____

Date: _____

(Corporate Seal)

FORM C1: CONTRACTOR'S GEORGIA UTILITY LICENSE CERTIFICATION

Contractor's Name: _____

Utility Contractor's Name: _____

Expiration Date of License: _____

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

Signed: _____

Date: _____

(ATTACH COPY OF LICENSE)

**FORM C2: CONTRACTOR'S GEORGIA GENERAL CONTRACTOR'S LICENSE
CERTIFICATION**

Contractor's Name: _____

General Contractor's License Number: _____

Expiration Date of License: _____

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

Signed: _____

Date: _____

(ATTACH COPY OF LICENSE)

FORM C3: GEORGIA PROFESSIONAL LICENSE CERTIFICATION

NOTE: Please complete this form for the work your firm will perform on this project.

Contractor's Name: _____

Performing work as: Prime Contractor ____ Sub-Contractor ____

Professional License Type: _____

Professional License Number: _____

Expiration Date of License: _____

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

Signed: _____

Date: _____

(ATTACH COPY OF LICENSE)

FORM D: CERTIFICATION REGARDING DEBARMENT

- (1) The Offeror certifies that neither it or its subcontractors is presently debarred, suspended, proposed for debarment, declared ineligible, or otherwise excluded from doing business with any government agency. Any such exclusion may cause prohibition of your firm from participating in any procurement by the Fulton County Government.
- (2) If the Offeror is unable to certify to any of the statements in this certification, such Offeror or subcontractor shall attach an explanation to this bid or proposal.

INSTRUCTIONS FOR CERTIFICATION

By signing and submitting this certification, the Offeror is providing the certification set out below:

- (1) The certification in this clause is a material representation of fact upon which reliance will be placed. If it is later determined that the prospective vendor knowingly rendered a false certification, the Purchasing Agent may pursue all available remedies, including suspension and/or debarment, for withdrawal of award or termination of a contract.
- (2) The prospective Offeror shall provide immediate written notice to the Purchasing Agent if at anytime the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- (3) Offeror shall be under a continuing duty to immediately inform the Purchasing Agent in writing of any changes, if as a result of such changes, the Offeror certification regarding debarment is affected.

DEBARMENT ORDINANCE

The following Section 102-449 of Fulton County Code of Laws establishes the procedure for the debarment of contractors.

(a) Authority to suspend.

After reasonable notice to the entity involved and reasonable opportunity for that entity to be heard, the Purchasing Agent, after consultation with user department, the County Manager and the County Attorney shall have the authority to suspend an entity for cause from consideration for award of county contracts. As used in this section, the term entity means any business entity, individual, firm, contractor, subcontractor or business corporation, partnership, limited liability corporation, firm, contractor, subcontractor or business structured; provided, further, that any such entity shall also be subject to suspension under this section if any of its constituents, members, subcontractors at any tier of such entity's and the entity, or any constituent or member, knew or should have known of the commission of the act. The suspension shall be for a period not to exceed three (3) years unless cause is based on a felony conviction for an offense related or associated with fraudulent contracting or misappropriation of funds wherein the suspension shall not exceed seven (7) years.

(b) Causes for Suspension. The causes for suspension include:

- (1) Conviction for commission of a criminal offense as an incident to obtain or attempting to obtain a public or private contract or subcontract, or in performance of such contract or subcontract;

- (2) Conviction of state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property or other offense indicating a lack of business integrity or business honesty which currently, seriously and directly affects responsibility as a county contractor.
- (3) Conviction of state or federal anti-trust statutes arising out of the solicitation and submission of bids and proposals;
- (4) Violation of contract provisions, as set forth below, of a character which is regarded by the Purchasing Agent to be so serious as to justify suspension action:
 - a. Failure to perform in accordance with the specifications within a time limit provided in a county contract;
 - b. A recent record of failure to perform or unsatisfactory performance in accordance with the terms of one or more contracts; provided, that failure to perform or unsatisfactory performance caused by acts beyond the control of the contractor shall not be considered to be a basis for suspension;
 - c. Material representation of the composition of the ownership or workforce or business entity certified to the county as a minority business enterprise; or
 - d. Falsification of any documents.
- (5) For violation of the ethical standards set forth in Fulton County Code Chapter 9, Code of Ethics.
- (6) Knowing misrepresentation to the county, of the use which a majority owned contractor intends to make a minority business enterprise (a business entity at least 51 percent of which is owned and controlled by minority persons, as defined in Fulton County Code Section 102-431) as a subcontractor or a joint venture partner, in performing work under contract with the County.

Failure to fully and truthfully provide the information required, may result in the disqualification of your bid/proposal from consideration or termination of the Contract, once awarded. This document must be completed and included as a part of the bid/proposal package along with other required documents.

[SIGNATURES ON NEXT PAGE]

Under penalty of perjury, I declare that I have examined this certification and all attachments hereto, if applicable, to the best of my knowledge and belief, and all statements contained hereto are true, correct, and complete.

On this _____ day of _____, 20____

(Legal Name of Offeror) (Date)

(Signature of Authorized Representative) (Date)

(Title)

FORM E: DISCLOSURE FORM AND QUESTIONNAIRE

1. Please provide the names and business addresses of each of the Offeror's firm's officers and directors.

For the purposes of this form, the term "Offeror" means an entity that responds to a solicitation for a County contract by either submitting a proposal in response to a Request for Proposal or a Request for Qualification or a Bid in response to an Invitation to Bid. Describe accurately, fully and completely, their respective relationships with said Offeror, including their ownership interests and their anticipated role in the management and operations of said Offeror.

2. Please describe the general development of said Offeror's business during the past five (5) years, or such shorter period of time that said Offeror has been in business.

3. Please state whether any employee, agent or representative of said Offeror who is or will be directly involved in the subject project has or has ever: (i) directly or indirectly had a business relationship with Fulton County; (ii) directly or indirectly received revenues from Fulton County; or (iii) directly or indirectly receives revenues from the result of conducting business on Fulton County property or pursuant to any contract with Fulton County. Please describe in detail any such relationship.

LITIGATION DISCLOSURE:

Failure to fully and truthfully disclose the information required, may result in the disqualification of your bid or proposal from consideration or termination of the Contract, once awarded.

1. Please state whether any of the following events have occurred in the last five (5) years with respect to said Offeror. If any answer is yes, explain fully the following:

(a) whether a petition under the federal bankruptcy laws or state insolvency laws was filed by or against said Offeror, or a receiver fiscal agent or similar officer was appointed by a court for the business or property of said Offeror;

Circle One: YES NO

(b) whether Offeror was subject of any order, judgment, or decree not subsequently reversed, suspended or vacated by any court of competent jurisdiction, permanently enjoining said Offeror from engaging in any type of business practice, or otherwise eliminating any type of business practice; and

Circle One: YES NO

(c) whether said Offeror's business was the subject of any civil or criminal proceeding in which there was a final adjudication adverse to said Offeror, which directly arose from activities conducted by the business unit or corporate division of said Offeror which submitted a bid or proposal for the subject project. If so please explain.

Circle One: YES NO

2. Have you or any member of your firm or team to be assigned to this engagement ever been indicted or convicted of a criminal offense within the last five (5) years?

Circle One: YES NO

3. Have you or any member of your firm or team been terminated (for cause or otherwise) from any work being performed for Fulton County or any other Federal, State or Local Government?

Circle One: YES NO

4. Have you or any member of your firm or team been involved in any claim or litigation adverse to Fulton County or any other federal, state or local government, or private entity during the last three (3) years?

Circle One: YES NO

5. Has any offeror, member of offeror's team, or officer of any of them (with respect to any matter involving the business practices or activities of his or her employer), been notified within the five (5) years preceding the date of this offer that any of them are the target of a criminal investigation, grand jury investigation, or civil enforcement proceeding?

Circle One: YES NO

If you have answered "YES" to any of the above questions, please indicate the name(s) of the person(s), the nature, and the status and/or outcome of the information, indictment, conviction, termination, claim or litigation, the name of the court and the file or reference number of the case, as applicable. Any such information should be provided on a separate page, attached to this form and submitted with your proposal.

NOTE: If any response to any question set forth in this questionnaire has been disclosed in any other document, a response may be made by attaching a copy of such disclosure. (For example, said Offeror's most recent filings with the Securities and Exchange Commission ("SEC") may be provided if they are responsive to certain items within the questionnaire.) However, for purposes of clarity, Offeror should correlate its responses with the exhibits by identifying the exhibit and its relevant text.

Disclosures must specifically address, completely respond and comply with all information requested and fully answer all questions requested by Fulton County. Such disclosure must be submitted at the time of the bid or proposal submission and included as a part of the bid/proposal submitted for this project. Disclosure is required for Offerors, joint venture partners and first-tier subcontractors.

Failure to provide required disclosure, submit officially signed and notarized documents or respond to any and all information requested/required by Fulton County can result in the bid/proposal declared as non-responsive. This document must be completed and included as a part of the bid/proposal package along with other required documents.

[SIGNATURES ON NEXT PAGE]

Under penalty of perjury, I declare that I have examined this questionnaire and all attachments hereto, if applicable, to the best of my knowledge and belief, and all statements contained hereto are true, correct, and complete.

On this _____ day of _____, 20_____

(Legal Name of Proponent) (Date)

(Signature of Authorized Representative) (Date)

(Title)

Sworn to and subscribed before me,

This _____ day of _____, 20_____

(Notary Public) (Seal)

Commission Expires _____
(Date)

**FORM F: GEORGIA SECURITY AND IMMIGRATION CONTRACTOR AFFIDAVIT
AND AGREEMENT**

Instructions:

Contractors must attest to compliance with the requirements of O.C.G.A 13-10-91 and the Georgia Department of Labor Rule 300-10-01-.02 by executing the Contractor Affidavit provided.

STATE OF GEORGIA

COUNTY OF FULTON

**FORM F: GEORGIA SECURITY AND IMMIGRATION CONTRACTOR AFFIDAVIT
AND AGREEMENT**

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services¹ under a contract with **[insert name of prime contractor]** _____ on behalf of **Fulton County Government** has registered with and is participating in a federal work authorization program*,² in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services to this contract with **Fulton County Government**, contractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the **Fulton County Government** at the time the subcontractor(s) is retained to perform such service.

EEV/Basic Pilot Program* User Identification Number

BY: Authorized Officer of Agent
(Insert Contractor Name)

Title of Authorized Officer or Agent of Contractor

Printed Name of Authorized Officer or Agent

Sworn to and subscribed before me this _____ day of _____, 20__.

Notary Public: _____

County: _____

Commission Expires: _____

¹O.C.G.A. § 13-10-90(4), as amended by Senate Bill 160, provides that “physical performance of services” means any performance of labor or services for a public employer (e.g., Fulton County) using a bidding process (e.g., ITB, RFQ, RFP, etc.) or contract wherein the labor or services exceed \$2,499.99, except for those individuals licensed pursuant to title 26 or Title 43 or by the State Bar of Georgia and is in good standing when such contract is for service to be rendered by such individual.

²*[Any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603].

**FORM G: GEORGIA SECURITY AND IMMIGRATION SUBCONTRACTOR
AFFIDAVIT**

Instructions:

In the event that your company is awarded the contract for this project, and will be utilizing the services of any subcontractor(s) in connection with the physical performance of services pursuant to this contract, the following affidavit must be completed by such subcontractor(s). Your company must provide a copy of each such affidavit to Fulton County Government, Department of Purchasing & Contract Compliance with the proposal submittal.

All subcontractor affidavit(s) shall become a part of the contract and all subcontractor(s) affidavits shall be maintained by your company and available for inspection by Fulton County Government at any time during the term of the contract. All subcontractor(s) affidavit(s) shall become a part of any contractor/subcontractor agreement(s) entered into by your company.

STATE OF GEORGIA

COUNTY OF FULTON

**FORM G: GEORGIA SECURITY AND IMMIGRATION SUBCONTRACTOR
AFFIDAVIT**

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services³ under a contract with **[insert name of prime contractor]** _____ behalf of **Fulton County Government** has registered with and is participating in a federal work authorization program*,⁴ in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

EEV/Basic Pilot Program* User Identification Number

BY: Authorized Officer of Agent
(Insert Subcontractor Name)

Title of Authorized Officer or Agent of Subcontractor

Printed Name of Authorized Officer or Agent

Sworn to and subscribed before me this _____ day of _____, 20__.

Notary Public: _____

County: _____

Commission Expires: _____

³O.C.G.A. § 13-10-90(4), as amended by Senate Bill 160, provides that “physical performance of services” means any performance of labor or services for a public employer (e.g., Fulton County) using a bidding process (e.g., ITB, RFQ, RFP, etc.) or contract wherein the labor or services exceed \$2,499.99, except for those individuals licensed pursuant to title 26 or Title 43 or by the State Bar of Georgia and is in good standing when such contract is for service to be rendered by such individual.

⁴*[Any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603].

SECTION 7

CONTRACT COMPLIANCE REQUIREMENTS

NON-DISCRIMINATION IN PURCHASING AND CONTRACTING

It is the policy of Fulton County Government that discrimination against businesses by reason of the race, color, gender or national origin of the ownership of any such business is prohibited. Furthermore, it is the policy of the Board of Commissioners ("Board") that Fulton County and all vendors and contractors doing business with Fulton County shall provide to all businesses the opportunity to participate in contracting and procurement paid, in whole or in part, with monetary appropriations of the Board without regard to the race, color, gender or national origin of the ownership of any such business. Similarly, it is the policy of the Board that the contracting and procurement practices of Fulton County should not implicate Fulton County as either an active or passive participant in the discriminatory practices engaged in by private contractors or vendors seeking to obtain contracts with Fulton County.

Implementation of Equal Employment Opportunity (EEO) Policy

The County effectuates Equal Employment Opportunity thru Policy #800-8, Non-Discrimination in Contracting and Procurement. This policy considers racial and gender workforce availability. The availability of each workgroup is derived from the work force demographics set forth in the 2000 Census EEO file prepared by the United States Department of Commerce for the applicable labor pool normally utilized for the contract.

Monitoring of EEO Policy

Upon award of a contract with Fulton County, the successful bidder/proposer must complete an Equal Employment Opportunity Report (EEOR), describing the racial and gender make-up of the firm's work force. If the EEOR indicates that the firm's demographic composition indicates underutilization of employee's of a particular ethnic group for each job category, the firm will be required to submit an aggressive action plan setting forth steps the firm will take to address the identified underutilization.

DETERMINATION OF GOOD FAITH EFFORTS

During the course of the project, the Prime Contractor shall demonstrate that they have made all efforts reasonably possible to ensure that Minority and Female Business Enterprises (MFBE) have had a full and fair opportunity to compete and win subcontracts on this project. The Prime Contractor is required to include all outreach attempts that would demonstrate a "Good Faith Effort" in the solicitation of sub-consultants/subcontractors.

Written documentation demonstrating the Prime Contractor's outreach efforts to identify, contact, contract with or utilize Minority or Female owned businesses shall include holding pre-bid conferences, publishing advertisements in general circulation media, trade association publications, minority-focused media, and the County's bid board, as well as other efforts.

Include a list of publications where the advertisement was placed as well as a copy of the advertisement. Advertisement shall include at a minimum, scope of work, project location, location(s) of where plans and specifications may be viewed or obtained and trade or scopes of

work for which subcontracts are being solicited.

EQUAL BUSINESS OPPORTUNITY PLAN (EBO PLAN)

In addition to the proposal submission requirements, each vendor **must** submit an Equal Business Opportunity Plan (EBO Plan) with their bid/proposal. The EBO Plan is designed to enhance the utilization of a particular racial, gender or ethnic group by a bidder/proposer, contractor, or vendor or by Fulton County. The respondent **must** outline a plan of action to encourage and achieve diversity and equality in the available procurement and contracting opportunities with *this solicitation*.

The EBO Plan **must** identify and include:

1. Potential opportunities within the scope of work of *this solicitation* that will allow for participation of racial, gender or ethnic groups.
2. Efforts that will be made by the bidder/proposer to encourage and solicit minority and female business utilization in *this solicitation*.

Fulton County encourages joint ventures, teaming, partnering and mentor-protégé relationships with minority and female businesses in an effort to achieve contracting and procurement diversity.

Prompt Payment: The prime contractor **must** certify in writing and **must** document all subcontractors, sub-consultants and suppliers have been promptly paid for work and materials, (less any retainage by the prime contractor prior to receipt of any further progress payments). In the event the prime contractor is unable to pay subcontractors, sub-consultants or suppliers until it has received a progress payment from Fulton County, the prime contractor shall pay all subcontractors, sub-consultants or suppliers funds due from said progress payment within forty-eight (48) hours of receipt of payment from Fulton County. In no event shall a subcontractor, sub-consultant or supplier be paid later than fifteen (15) days as provided for by state law.

REQUIRED FORMS AND EBO PLAN

In order to be compliant with the intent and provisions of the Fulton County Non-Discrimination in Purchasing and Contracting Ordinance (99-0960), bidders/proposers **must** submit the following completed documents. Failure to provide this information **shall** result in the proposal being deemed non-responsive.

- Exhibit A – Promise of Non-Discrimination
- Exhibit B – Employment Report
- Exhibit C – Schedule of Intended Subcontractor Utilization
- Exhibit D – Letter of Intent to Perform as a Subcontractor or Provide Materials or Services
- Exhibit E – Declaration Regarding Subcontractors Practices
- Exhibit F – Joint Venture Disclosure Affidavit
- Equal Business Opportunity Plan (EBO Plan). This document is not a form rather a statement created by the bidder/proposer on its company letter head addressing the EBO Plan requirements.
- Exhibit H – First Source Jobs Program Information, Form 1

The following document must be completed as instructed if awarded the project:

- Exhibit G – Prime Contractor’s Subcontractor Utilization Report
- Exhibit H – First Source Jobs Program Agreement, Form 2

All Contract Compliance documents (Exhibits A – H and EBO Plan) are to be placed in a **separate sealed envelope** clearly marked “Contract Compliance”. The EBO Plan must be submitted on company letterhead. These documents are considered part of and should be submitted with the Technical Proposal.

EXHIBIT A – PROMISE OF NON-DISCRIMINATION

“Know all persons by these presents, that I/We (_____),
Name

_____ Title _____ Firm Name
Hereinafter “Company”, in consideration of the privilege to bid on or obtain contracts funded, in whole or in part, by Fulton County, hereby consent, covenant and agree as follows:

- 1) No person shall be excluded from participation in, denied the benefit of, or otherwise discriminated against on the basis of race, color, national origin or gender in connection with any bid submitted to Fulton County for the performance of any resulting there from,
- 2) That it is and shall be the policy of this Company to provide equal opportunity to all businesses seeking to contract or otherwise interested in contracting with this Company without regard to the race, color, gender or national origin of the ownership of this business,
- 3) That the promises of non-discrimination as made and set forth herein shall be continuing in nature and shall remain in full force and effect without interruption,
- 4) That the promise of non-discrimination as made and set forth herein shall be made a part of, and incorporated by reference into, any contract or portion thereof which this Company may hereafter obtain,
- 5) That the failure of this Company to satisfactorily discharge any of the promises of non-discrimination as made and set forth herein shall constitute a material breach of contract entitling the Board to declare the contract in default and to exercise any and all applicable rights and remedies, including but not limited to cancellation of the contract, termination of the contract, suspension and debarment from future contracting opportunities, and withholding and/or forfeiture of compensation due and owing on a contract; and
- 6) That the bidder shall provide such information as may be required by the Director of Purchasing & Contract Compliance pursuant to the Fulton County Non-Discrimination in Purchasing and Contracting Ordinance.

SIGNATURE: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

EXHIBIT B – EMPLOYMENT REPORT

The demographic employment make-up for the bidder must be identified and submitted with this bid/proposal. In addition, if subcontractors will be utilized by the bidder/proposer to complete this project, then the demographic employment make-up of the subcontractor(s) must be identified and submitted with this bid.

JOB CATEGORIES	TOTAL EMPLOYED		TOTAL MINORITIES		WHITE (Not Hispanic Origin)		BLACK or AFRICAN AMERICAN (Not of Hispanic Origin)		HISPANIC or LATINO		AMERICAN INDIAN or ALASKAN NATIVE (AIAN)		ASIAN		NATIVE HAWAIIAN or OTHER PACIFIC ISLANDER (NHOP)		TWO or MORE RACES	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
EXECUTIVE/SENIOR LEVEL OFFICIALS and MANAGERS																		
FIRST/MID LEVEL OFFICIALS and MANAGERS																		
PROFESSIONALS																		
TECHNICIANS																		
SALES WORKERS																		
ADMINISTRATIVE SUPPORT WORKERS																		
CRAFT WORKERS																		
OPERATIVES																		
LABORERS & HELPERS																		
SERVICE WORKERS																		
TOTAL																		

FIRMS'S NAME _____

ADDRESS _____

TELEPHONE _____

This completed form is for (Check only one):

Bidder/Proposer

Subcontractor

Submitted by: _____

Date Completed: _____

EXHIBIT C - SCHEDULE OF INTENDED SUBCONTRACTOR UTILIZATION

If the bidder/proposer intends to subcontract any portion of this scope of work/service(s), this form **must be** completed and **submitted with the bid/proposal**. All prime bidders/proposers **must** include Letter(s) of Intent (Exhibit D) in the bid document for all subcontractors who will be utilized under the scope of work/services.

Prime Bidder/Proposer: _____

ITB/RFP Number: _____

Project Name or Description of Work/Service(s): _____

1. My firm, as Prime Bidder/Proposer on this scope of work/service(s) is _____ is not _____ a minority or female owned and controlled business enterprise. (Please indicate below the portion of work, including, percentage of bid/proposal amount that your firm will carry out directly):

2. If the Prime Bidder/Proposer is a Joint Venture, please complete Exhibit F: Joint Venture Disclosure Affidavit and attach a copy of the executed Joint Venture Agreement.

3. Sub-Contractors (including suppliers) to be utilized in the performance of this scope of work/service(s), if awarded, are:

SUBCONTRACTOR NAME: _____

ADDRESS: _____

PHONE: _____

CONTACT PERSON: _____

ETHNIC GROUP*: _____ COUNTY CERTIFIED** _____

WORK TO BE PERFORMED: _____

DOLLAR VALUE OF WORK: \$ _____ PERCENTAGE VALUE: _____ %

***Ethnic Groups: African American (AABE); Asian American (ABE); Hispanic American (HBE); Native American (NABE); White Female American (WFBE); **If yes, please attach copy of recent certification.**

SUBCONTRACTOR NAME: _____
ADDRESS: _____

PHONE: _____
CONTACT PERSON: _____
ETHNIC GROUP*: _____ COUNTY CERTIFIED** _____
WORK TO BE PERFORMED: _____

DOLLAR VALUE OF WORK: \$ _____ PERCENTAGE VALUE: _____ %

SUBCONTRACTOR NAME: _____
ADDRESS: _____

PHONE: _____
CONTACT PERSON: _____
ETHNIC GROUP*: _____ COUNTY CERTIFIED** _____
WORK TO BE PERFORMED: _____

DOLLAR VALUE OF WORK: \$ _____ PERCENTAGE VALUE: _____ %

SUBCONTRACTOR NAME: _____
ADDRESS: _____

PHONE: _____
CONTACT PERSON: _____
ETHNIC GROUP*: _____ COUNTY CERTIFIED** _____
WORK TO BE PERFORMED: _____

DOLLAR VALUE OF WORK: \$ _____ PERCENTAGE VALUE: _____ %

SUBCONTRACTOR NAME: _____
ADDRESS: _____

PHONE: _____
CONTACT PERSON: _____
ETHNIC GROUP*: _____ COUNTY CERTIFIED** _____
WORK TO BE PERFORMED: _____

DOLLAR VALUE OF WORK: \$ _____ PERCENTAGE VALUE: _____ %

***Ethnic Groups: African American (AABE); Asian American (ABE); Hispanic American (HBE); Native American (NABE); White Female American (WFBE); **If yes, please attach copy of recent certification.**

Total Dollar Value of Subcontractor Agreements: (\$)

Total Percentage Value: (%)

CERTIFICATION: The undersigned certifies that he/she has read, understands and agrees to be bound by the Bid/Proposer provisions, including the accompanying Exhibits and other terms and conditions regarding sub-contractor utilization. The undersigned further certifies that he/she is legally authorized by the Bidder/Proposer to make the statement and representation in this Exhibit and that said statements and representations are true and correct to the best of his/her knowledge and belief. The undersigned understands and agrees that if any of the statements and representations are made by the Bidder/Proposer knowing them to be false, or if there is a failure of the intentions, objectives and commitments set forth herein without prior approval of the County, then in any such event the Contractor's acts or failure to act, as the case may be, shall constitute a material breach of the contract, entitling the County to terminate the Contract for default. The right to so terminate shall be in addition to, and in lieu of, any other rights and remedies the County may have for other defaults under the contract.

Signature: _____ **Title:** _____

Firm or Corporate Name: _____

Address: _____

Telephone: () _____

Fax Number: () _____

Email Address: _____

EXHIBIT D

**LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR
OR
PROVIDE MATERIALS OR SERVICES**

This form **must** be completed by **ALL** known subcontractor and submitted with the bid/proposal. The Prime Contractor **must** submit Letters of Intent for **ALL** known subcontractors at time of bid submission.

To: _____
(Name of Prime Contractor Firm)

From: _____
(Name of Subcontractor Firm)

ITB/RFP Number: _____

Project Name: _____

The undersigned is prepared to perform the following described work or provide materials or services in connection with the above project (specify in detail particular work items, materials, or services to be performed or provided):

Description of Work	Project Commence Date	Project Completion Date	Estimated Dollar Amount

(Prime Bidder)

(Subcontractor)

Signature _____

Signature _____

Title _____

Title _____

Date _____

Date _____

EXHIBIT E - DECLARATION REGARDING SUBCONTRACTING PRACTICES

If the bidder/proposer **does not intend to subcontract** any portion of the scope of work services(s), this form **must be** completed and submitted with the bid/proposal.

_____ hereby declares that it is my/our intent to
(Bidder)

perform 100% of the work required for _____
(ITB/RFP Number)

(Description of Work)

In making this declaration, the bidder/proposer states the following:

1. That the bidder/proposer 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;
2. If it should become necessary to subcontract some portion of the work at a later date, the bidder/proposer will comply with all requirements of the County's Non-Discrimination Ordinance in providing equal opportunities to all firms to subcontract the work. The determination to subcontract some portion of the work at a later date shall be made in good faith and the County reserves the right to require additional information to substantiate a decision made by the bidder/proposer to subcontract work following the award of the contract. Nothing contained in this provision shall be employed to circumvent the spirit and intent of the County's Non-Discrimination Ordinances;
3. The bidder will provide, upon request, information sufficient for the County to verify Item Number one.

AUTHORIZED COMPANY REPRESENTATIVE

Name: _____ **Title:** _____ **Date:** _____

Signature: _____

Firm: _____

Address: _____

Phone Number: _____

Fax Number: _____

Email Address: _____

EXHIBIT F - JOINT VENTURE DISCLOSURE AFFIDAVIT

ITB/RFP No. _____

Project Name _____

This form must be completed and submitted with the bid/proposal if a joint venture approach is to be undertaken.

In order to evaluate the extent of small, minority and female business involvement being proposed by a Bidder/Proposer, certain relevant information must be provided prior to contract award. The information requested below is to clearly identify and explain the extent of small business participation in the proposed joint venture. All items must be properly addressed before the business entity can be evaluated.

1. Firms:

1) **Name of Business:** _____
Street Address: _____
Telephone No.: _____
Nature of Business: _____

2) **Name of Business:** _____
Street Address: _____
Telephone No.: _____
Nature of Business: _____

3) **Name of Business:** _____
Street Address: _____
Telephone No.: _____
Nature of Business: _____

NAME OF JOINT VENTURE (if applicable): _____

ADDRESS: _____

PRINCIPAL OFFICE: _____

OFFICE PHONE: _____

Note: Attach additional sheets as required

1. Describe the capital contributions by each joint venturer and accounting thereof.
2. Describe the financial controls of the joint venture, e.g., will a separate cost center be established? Which venturer will be responsible for keeping the books? How will the expense therefore be reimbursed? What is the authority of each joint venture to commit or obligate the order?
3. Describe any ownership, options for ownership, or loans between the joint ventures. Identify terms thereof.
4. Describe the estimated contract cash flow for each joint venturer.
5. To what extent and by whom will the on-site work be supervised?
6. To what extent and by whom will the administrative office be supervised?
7. Which joint venturer will be responsible for material purchases including the estimated cost thereof? How will the purchase be financed?
8. Which joint venturer will provide equipment? What is the estimated cost thereof? How will the equipment be financed?
9. Describe the experience and business qualifications of each joint venturer.
10. Submit a copy of all joint venture agreements and evidence of authority to do business in the State of Georgia as well as locally, to include all necessary business licenses.
11. Percent of Minority/Female Business Enterprises ownership by each joint venture in terms of profit and loss sharing: _____

12. The authority of each joint venturer to commit or obligate the other: _____

13. Number of personnel to be involved in project, their crafts and positions and whether they are employees of the Minority/Female Business Enterprises enterprise, the majority firm or the joint venture: _____

14. Identification of control and participation in venture; list those individuals who are responsible for day-to-day management and policy decision-maker, including, but not limited to, those with prime responsibility for areas designated below; (use additional sheets if necessary)

<u>Name</u>	<u>Race</u>	<u>Sex</u>	<u>Financial Decisions</u>	<u>Supervision Field Operation</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

In connection with any work that these firms, as a joint venture, might be authorized to perform in connection with above captioned contract, we each do hereby authorize representatives of the Fulton County Department of Contract Compliance, Departments of Purchasing and Contract Compliance, and Finance, under the direction of the County Manger's Office, to examine, from time to time, the books, records and files to the extent that such relate to this County project.

WE DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THE FOREGOING DOCUMENT ARE TRUE AND CORRECT, AND THAT WE ARE AUTHORIZED, ON BEHALF OF THE ABOVE FIRMS, TO MAKE THIS AFFIDAVIT AND GRANT THE ABOVE PRIVILEGE.

FOR _____
(Company)

Date: _____

(Signature of Affiant)

(Printed Name)

(Company)

Date: _____

(Signature of Affiant)

(Printed Name)

State of _____:

County of _____:

On this ____ day of _____, 20____, before me, appeared _____, the undersigned officer, personally appeared _____ known to me to be the person described in the foregoing Affidavit and acknowledges that he (she) executed the same in the capacity therein stated and for the purpose therein contained.

EXHIBIT – G PRIME CONTRACTOR/SUB-CONTRACTOR UTILIZATION REPORT

This report **must** be submitted by the **tenth day** of each month, along with a copy of your monthly invoice (schedule of values/payment application) to Contract Compliance. Failure to comply **shall** result in the County commencing proceedings to impose sanctions to the prime contractor, in addition to pursuing any other available legal remedy. Sanctions may include the suspending of any payment or part thereof, termination or cancellation of the contract, and the denial of participation in any future contracts awarded by Fulton County.

REPORTING PERIOD		PROJECT NAME:	
FROM:		PROJECT NUMBER:	
TO:		PROJECT LOCATION:	

PRIME CONTRACTOR		Contract Award Date	Contract Award Amount	Change Order Amount	Contract Period	% Complete to Date
Name:						
Address:						
Telephone #:						

AMOUNT OF REQUISITION THIS PERIOD: \$ _____
TOTAL AMOUNT REQUISITION TO DATE: \$ _____
TOTAL AMOUNT REQUISITION TO DATE: \$ _____

SUBCONTRACTOR UTILIZATION (add additional rows as necessary)

Name of Sub-Contractor	Description of Work	Contract Amount	Amount Paid To Date	Amount Requisition This Period	Contract Period Starting Date	Contract Period Ending Date

TOTALS						

Executed By: _____

 (Signature) (Printed Name)

Notary: _____ Date: _____ My Commission Expires:

Should you have questions regarding any of the documents contained in Section 6, please feel free to contact the Office of Contract Compliance at (404) 763-6300, for further assistance.

EXHIBIT H

FULTON COUNTY FIRST SOURCE JOBS PROGRAM

STATEMENT OF POLICY:

It is the policy of Fulton County Government to provide employment opportunities to the citizens of Fulton County. This policy will apply to all contracts procured through the Department of Purchasing & Contract Compliance valued in excess of \$200,000. The Prime Contractor is expected to utilize the First Source Jobs Program to fill 50% of the entry level jobs which arise as a result of any project funded in whole or in part with County funds with residents of Fulton County.

PURPOSE:

The purpose of this policy is to create a pool of employable persons who are residents of Fulton County to be called upon as a source to fill jobs created as a result of any eligible project funded in whole or in part with County funds in order to provide stable economic opportunities for families throughout the County. The First Source Jobs Program will be implemented by the Department of Purchasing & Contract Compliance and the Office of Workforce Development.

MONITORING POLICY:

Upon execution of a contract with Fulton County Government, the First Source Jobs Agreement (FSJ Form 1) will become a part of the contract between the bidder/proposer and Fulton County Government. The First Source Jobs Program will be monitored during routine site visits by the Office of Contract Compliance along with the Office of Workforce Development.

FULTON COUNTY

First Source Jobs Program Information

Company Name: _____

Project Number: _____

Project Name: _____

The following entry-level positions will become available as a result of the above referenced contract with Fulton County.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Include a job description and all required qualifications for each position listed above.

Identify a company representative and contact phone number who will be responsible for coordinating with the First Source Jobs Program:

Company Representative: _____

Phone Number: _____

Email Address: _____

FULTON COUNTY
First Source Jobs Program Agreement

Awarded Contractor's Name: _____

Formal Contract Name: _____

RFP/ITB Number: _____

Contact Person: _____

Contact Phone: _____

The contractor listed above agrees to the following:

1. The contractor shall make a good faith effort to fill 50% of the entry level position(s) created by this project using the Fulton County First Source Jobs Program.
2. The contractor shall provide the applicable details of every entry level job in writing within the required form.
3. The contractor shall be expected to present documentation that confirms employment terms to both the employee and Fulton County.

The Office of Contract Compliance will assist with monitoring the participation of First Source Jobs Program employees during routine site visits and report findings to the Office of Workforce Development for confirmation and follow-up. The Office of Workforce Development shall notify the Director of Human Services and the Purchasing Agent of any determination of non-compliance with the requirements of this policy and recommend a resolution or action to be taken.

Upon a determination by the Purchasing Agent and the Director of Human Services that a contractor has failed to comply with any portion of this policy, the County may impose the following:

1. Ten percent (10%) of all future payments under the involved eligible project shall be entitled to be withheld from a contractor that has violated this policy until the contractor complies with the provisions of this policy.

The undersigned agrees to the terms and conditions set forth in this agreement.

Contractor's Official Title: _____ Date: _____

Contractor's Name: _____

Contractor's Signature: _____

FORM 2

SECTION 8 GENERAL CONDITIONS

00700-1 FAMILIARITY WITH SITE

Execution of this agreement by the Contractor is a representation that the Contractor has visited the site, has become familiar with the local conditions under which the work is to be performed, and has correlated personal observations with the requirements of this agreement.

00700-2 CONTRACT DOCUMENTS

This agreement consists of Owner's invitation for bid, instructions to bidders, bid form, performance bond, payment bond, acknowledgments, the contract, general conditions, special conditions, specifications, plans, drawings, exhibits, addenda, and written change orders.

- A. Notice of Award of Contract:
- B. Execution of Contract Documents

Upon notification of Award of Contract, the Owner shall furnish the Contractor the conformed copies of Contract Documents for execution by the Contractor and the Contractor's surety.

Within ten (10) days after receipt the Contractor shall return all the documents properly executed by the Contractor and the Contractor's surety. Attached to each document shall be an original power-of-attorney for the person executing the bonds for the surety and certificates of insurance for the required insurance coverage.

After receipt of the documents executed by the Contractor and his surety with the power-of-attorney and certificates of insurance, the Owner shall complete the execution of the documents. Distribution of the completed documents will be made upon completion.

Should the Contractor and/or Surety fail to execute the documents within the time specified; the Owner shall have the right to proceed on the Bid Bond accompanying the bid.

If the Owner fails to execute the documents within the time limit specified, the Contractor shall have the right to withdraw the Contractor's bid without penalty.

Drawings and Specifications:

The Drawings, Specifications, Contract Documents, and all supplemental documents, are considered essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to define, describe and provide for all Work necessary to complete the Project in an acceptable manner, ready for use, occupancy, or operation by the Owner.

In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.

In cases where products or quantities are omitted from the Specifications, the description and quantities shown on the Drawings shall govern.

Any ambiguities or need for clarification of the Drawings or Specifications shall be immediately reported to the Construction Manager in writing. Any such ambiguity or need for clarification shall be handled by the Construction Manager in writing. No clarification of the Drawings and Specifications hereunder by the Construction Manager shall entitle the Contractor to any additional monies unless a Change Order has been processed as provided by "Changes in the Contract" hereof.

Any work done by the Contractor following a discovery of such differing site condition or ambiguity or need for clarification in the Contract Drawings and Specifications prior to a written report to the Construction Manager shall not entitle the Contractor to additional monies and shall be done at the Contractor's risk.

The Construction Manager will furnish the Contractor five (5) copies of the Contract Drawings and the Specifications, one copy of which the Contractor shall have available at all times on the Project site.

00700-3 DEFINITIONS

The following terms as used in this agreement are defined as follows to the extent the definitions herein differ or conflict with those in the Instructions for Bidders, Section 00100, the definitions herein shall control.

Alternate bids – the amount stated in the bid or proposal to be added to or deducted from the amount of the base bid or base proposal if the corresponding change in project scope or alternate materials or methods of construction is accepted.

Base bid – the amount of money stated in the bid or proposal as the sum for which the bidder or proposer offers to perform the work.

Change Order - an alteration, addition, or deduction from the original scope of work as defined by the contract documents to address changes or unforeseen conditions necessary for project completion. A written order to the Contractor issued by the County pursuant to Fulton County Policy and Procedures 800-6 for changes in the work within the general scope of the contract documents, adjustment of the contract price, extension of the contract time, or reservation of determination of a time extension.

Construction Manager shall mean the individual designated in writing, by the Director of the Public Works/General Services Department as the Construction Manager.

Contractor shall mean the party of the second part to the Contract Agreement or the authorized and legal representative of such party.

Contract Documents include the Contract Agreement, Contractor's Bid (including all documentation accompanying the Bid and any post-Bid documentation required by the County prior to the Notice of Award), Bonds, all Special Conditions, General Conditions, Supplementary Conditions, Specifications, Drawings and addenda, together with written amendments, change orders, field orders and the Construction Manager's written interpretations and clarifications issued in accordance with the General Conditions on or after the date of the Contract Agreement.

Shop drawing submittals reviewed in accordance with the General Conditions, geotechnical investigations and soils report and drawings of physical conditions in or relating to existing surface structures at or contiguous to the site are not Contract Documents.

Contract Price - The sum specified in the Agreement to be paid to the Contractor in consideration of the Work.

Contract Time shall mean the number of consecutive calendar days as provided in the Contract Agreement for completion of the Work, to be computed from the date of Notice to Proceed.

Owner or County shall mean Fulton County Government, party of the first part to the Contract Agreement, or its authorized and legal representatives.

Day - A calendar day of twenty-four hours lasting from midnight of one day to midnight the next day.

Director - Director of the Public Works/General Service Department of Fulton County, Georgia or the designee thereof.

Engineer of Record – Studio ALA, Inc., developed the specifications and drawings referred to herein.

Final Completion shall mean the completion of all work as required in accordance with the terms and conditions of the contract documents.

Liquidated Damages shall mean the amount, stated in the Contract Agreement, which the Contractor agrees to pay to the Owner for each consecutive calendar day beyond the Contract time required to complete the Project or for failing to comply with associated milestones. Liquidated Damages will end upon written notification from the Owner of Final Acceptance of the Project or upon written notification of from the Owner of completion of the milestone.

Notice to Proceed - A written communication issued by the County to the Contractor authorizing it to proceed with the work, establishing the date of commencement and completion of the work, and providing other direction to the Contractor.

Products shall mean materials or equipment permanently incorporated into the work.

Program Manager - Not used in this contract. Delete all references.

Project Manual - The Contract Documents.

Provide shall mean to furnish and install.

Substantial Completion - The date certified by the Construction Manager when all or a part of the work, as established pursuant to General Condition 0700-81, is sufficiently completed in accordance with the requirements of the contract documents so that the identified portion of the work can be utilized for the purposes for which it is intended.

Work or Project - All of the services specified, indicated, shown or contemplated by the contract documents, and furnishing by the Contractor of all materials, equipment, labor, methods, processes, construction and manufacturing materials and equipment, tools, plans, supplies, power, water, transportation and other things necessary to complete such services in accordance with the contract documents to insure a functional and complete facility.

00700-4 CODES

All codes, specifications, and standards referenced in the contract documents shall be the latest editions, amendments and revisions of such referenced standards in effect as of the date of the request for proposals for this contract.

00700-5 REVIEW OF CONTRACT DOCUMENTS

Before making its proposal to the County, and continuously after the execution of the agreement, the Contractor shall carefully study and compare the contract documents and shall at once report to the Construction Manager any error, ambiguity, inconsistency or omission that may be discovered, including any requirement which may be contrary to any law, ordinance, rule, or regulation of any public authority bearing on the performance of the work. By submitting its proposal, the Contractor agrees that the contract documents, along with any supplementary written instructions issued by or through the Construction Manager that have become a part of the contract documents, appear accurate, consistent and complete insofar as can be reasonably determined. If the Contractor has timely reported in writing any error, inconsistency, or omission to the Construction Manager, has properly stopped the affected work until instructed to proceed, and has otherwise followed the instructions of the Construction Manager, the Contractor shall not be liable to the County for any damage resulting from any such error, inconsistency, or omission in the contract documents. The Contractor shall not perform any portion of the work without the contract documents, approved plans, specifications, products and data, or samples for such portion of the work. For purposes of this section "timely" is defined as the time period in which the contractor discovers, or should have discovered, the error, inconsistency, or omission, with the exercise of reasonable diligence.

00700-6 STRICT COMPLIANCE

No observation, inspection, test or approval of the County or Construction Manager shall relieve the Contractor from its obligation to perform the work in strict conformity with the contract documents except as provided in General Condition 00700-48.

00700-7 APPLICABLE LAW

All applicable State laws, County ordinances, codes, and rules and regulations of all authorities having jurisdiction over the construction of the project shall apply to this agreement. The Contractor shall comply with the requirements of any Fulton County program concerning non-discrimination in contracting. All work performed within the right of way of the Georgia Department of Transportation and any railroad crossing shall be in accordance with Georgia Department of Transportation regulations, policies and procedures and, where applicable, those of any affected railroad. The Contractor shall comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work as specified and the Contractor agrees to indemnify and hold harmless the County, its officers, agents and employees, as well as the Construction Manager against any claim or liability arising from or based on the violation of any law, ordinance, regulation, order or decree affecting the conduct of the work, whether occasioned by the Contractor, his agents or employees.

00700-8 PERMITS, LICENSES AND BONDS

All permits and licenses necessary for the work shall be secured and paid for by the Contractor. If any permit, license or certificate expires or is revoked, terminated, or suspended as a result of any action on the part of the Contractor, the Contractor shall not be entitled to additional compensation or time. The Contractor shall obtain and keep in force at all times performance and payment bonds payable to Fulton County in penal amounts equal to 100% of the Contract price.

00700-9 TAXES

- A. The Contractor shall pay all sales, retail, occupational, service, excise, old age benefit and unemployment compensation taxes, consumer, use and other similar taxes, as well as any other taxes or duties on the materials, equipment, and labor for the work provided by the Contractor which are legally enacted by any municipal, county, state or federal authority, department or agency at the time bids are received, whether or not yet effective. The Contractor shall maintain records pertaining to such taxes and levies as well as payment thereof and shall make the same available to the County at all reasonable times for inspection and copying. The Contractor shall apply for any and all tax exemptions which may be applicable and shall timely request from the County such documents and information as may be necessary to obtain such tax exemptions. The County shall have no liability to the Contractor for payment of any tax from which it is exempt.
- B. The Contractor is obligated to comply with all local and State Sales and Use Tax laws. The Contractor shall provide the Owner with documentation to assist the Owner in obtaining sales and/or use tax refunds for eligible machinery and equipment used for the primary purpose of reducing or eliminating air or water pollution as provided for in Chapter 48-8-3 (36) and (37) of the Official Code of Georgia. All taxes shall be paid by the Contractor. All refunds will accrue to the Owner.

Acceptance of the project as complete and final payment will not be made by the Owner until the Contractor has fully complied with this requirement.

00700-10 DELINQUENT CONTRACTORS

The County shall not pay any claim, debt, demand or account whatsoever to any person firm or corporation who is in arrears to the County for taxes. The County shall be entitled to a counterclaim, backcharge, and offset for any such debt in the amount of taxes in arrears, and no assignment or transfer of such debt after the taxes become due shall affect the right of the County to offset any taxes owed against said debt.

00700-11 LIEN WAIVERS

The Contractor shall furnish the County with evidence that all persons who have performed work or furnished materials pursuant to this agreement have been paid in full prior to submitting its demand for final payment pursuant to this agreement. A final affidavit, Exhibit A, must be completed, and submitted to comply with requirements of 00700-11. In the event that such evidence is not furnished, the County may retain sufficient sums necessary to meet all lawful claims of such laborers and materialmen. The County assumes no obligation nor in any way undertakes to pay such lawful claims from any funds due or that may become due to the Contractor.

00700-12 MEASUREMENT

All items of work to be paid for per unit of measurement shall be subject to inspection, measurement, and confirmation by the Construction Manager.

00700-13 ASSIGNMENT

The Contractor shall not assign any portion of this agreement or moneys due there from (include factoring of receivables) without the prior written consent of the County. The Contractor shall retain personal control and shall provide personal attention to the fulfillment of its obligations pursuant to this agreement. Any assignment without the

express written consent of the County shall render this contract voidable at the sole option of the County.

00700-14 FOREIGN CONTRACTORS

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

00700-15 INDEMNIFICATION

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder, whether caused by the Contractor or the Contractor's agents, Servants, or employees, or by any of the Contractor's subcontractors or suppliers, and the Contractor shall indemnify and hold harmless the County, the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents, or any of their subcontractors from and against any and all loss and/or expense which they or any of them may suffer or pay as a result of claims or suits due to, because of, or arising out of any and all such injuries, deaths and/or damage, irrespective of County or Construction Manager negligence (except that no party shall be indemnified for their own sole negligence). The Contractor, if requested, shall assume and defend at the Contractor's own expense, any suit, action or other legal proceedings arising there from, and the Contractor hereby agrees to satisfy, pay, and cause to be discharged of record any judgment which may be rendered against the County and the Construction Manager arising there from.

In the event of any such loss, expense, damage, or injury, or if any claim or demand for damages as heretofore set forth is made against the County or the Construction Manager, the County may withhold from any payment due or thereafter to become due to the Contractor under the terms of this Contract, an amount sufficient in its judgment to protect and indemnify it and the Construction Manager, County's Commissioners, officers, employees, successors, assigns and agents from any and all claims, expense, loss, damages, or injury; and the County, in its discretion, may require the Contractor to furnish a surety bond satisfactory to the County providing for such protection and indemnity, which bond shall be furnished by the Contractor within five (5) days after written demand has been made therefore. The expense of said Bond shall be borne by the Contractor.

00700-16 SUPERVISION OF WORK AND COORDINATION WITH OTHERS

The Contractor shall supervise and direct the work using the Contractor's best skill and attention. The Contractor shall be solely responsible for all construction methods and procedures and shall coordinate all portions of the work pursuant to the contract subject to the overall coordination of the Construction Manager. All work pursuant to this agreement shall be performed in a skillful and workmanlike manner.

The County reserves the right to perform work related to the Project with the County's own forces and to award separate contracts in connection with other portions of the project, other work on the site under these or similar conditions of the contract, or work which has been extracted from the Contractor's work by the County.

When separate contracts are awarded for different portions of the project or other work on the site, the term "separate contractor" in the Contract Documents in each case shall mean the contractor who executes each separate County Agreement.

The Contractor shall cooperate with the County and separate contractors in arranging the introduction and storage of materials and equipment and execution of their work, and shall cooperate in coordinating connection of its work with theirs as required by the Contract Documents.

If any part of the Contractor's Work depends for proper execution or results upon the work of the County or any separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Construction Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results **within fourteen (14) days** of discovery of such discrepancy or defect. Failure of the Contractor to so report in writing shall constitute an acceptance of the County's or separate contractor's work as fit and proper to receive the Work, except as to any defects which may subsequently become apparent in such work by others.

Any costs caused by defective or untimely work shall be borne by the party responsible therefore.

Should the Contractor wrongfully cause damage to the work or property of the County or to other work or property on the site, including the work of separate contractors, the Contractor shall promptly remedy such damage at the Contractor's expense.

Should the Contractor be caused damage by any other contractor on the Project, by reason of such other contractor's failure to perform properly his contract with the County, no action shall lie against the County or the Construction Manager inasmuch as the parties to this agreement are the only beneficiaries hereof and there are no third party beneficiaries and neither the County nor the Construction Manager shall have liabilities therefore, but the Contractor may assert his claim for damages solely against such other contractor. The Contractor shall not be excused from performance of the contract by reason of any dispute as to damages with any other contractor or third party.

Where the Work of this Contract shall be performed concurrently in the same areas as other construction work, the Contractor shall coordinate with the Construction Manager and the separate contractors in establishing mutually acceptable schedules and procedures that shall permit all jobs to proceed with minimum interference.

If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up, the County may clean up and charge the cost thereof to the Contractor or contractors responsible therefore as the County shall determine to be just.

00700-17 ADMINISTRATION OF CONTRACT

The Program Manager and the Construction Manager shall provide administration services as hereinafter described.

For the administration of this Contract, the Construction Manager shall serve as the County's primary representative during design and construction and until final payment to the Contractor is due. The Construction Manager shall advise and consult with the County and the Program Manager. The primary point of contact for the Contractor shall be the Construction Manager. All correspondence from the Contractor to the County shall be forwarded through the Construction Manager. Likewise, all correspondence and instructions to the Contractor shall be forwarded through the Construction Manager.

The Construction Manager will determine in general that the construction is being performed in accordance with design and engineering requirements, and will endeavor to guard the County against defects and deficiencies in the Work.

The Construction Manager will not be responsible for or have control or charge of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, nor will it be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Construction Manager will not be responsible for or have control or charge over the acts or omissions of the Contractor, its engineers, consultants, subcontractors, or any of their agents or employees, or any other persons performing the Work.

Based on the Construction Manager's observations regarding the Contractor's Applications for Payment, the Construction Manager shall determine the amounts owing to the Contractor, in accordance with the payment terms of the Contract, and shall issue Certificates for Payment in such amount to the County.

The Construction Manager shall render interpretations necessary for the proper execution or progress of the Work. Either party to the Contract may make written requests to the Construction Manager for such interpretations.

Claims, disputes and other matters in question between the Contractor and the County relating to the progress of the Work or the interpretation of the Contract Documents shall be referred to the Construction Manager for interpretation.

All interpretations of the Construction Manager shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in graphic form.

Except as otherwise provided in this Contract, the Construction Manager shall issue a decision on any disagreement concerning a question of fact arising under this Contract. The Construction Manager shall reduce the decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Construction Manager shall be final and conclusive unless, within thirty (30) days from the date of receipt of such copy, the Contractor files a written appeal with the Director of Public Works and mails or otherwise furnishes the Construction Manager a copy of such appeal. The decision of the Director of Public Works or the Director's duly authorized representative for the determination of such appeals shall be final and conclusive. Such final decision shall not be pleaded in any suit involving a question of fact arising under this Contract, provided such is not fraudulent, capricious, arbitrary, so grossly erroneous as necessarily implying bad faith, or is not supported by substantial evidence. In connection with any appeal proceeding under this Article, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of Contractor's appeal. Pending any final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract as directed by the Construction Manager.

The Construction Manager shall have authority to reject Work which does not conform to the Contract Documents. Whenever, in the Construction Manager's opinion, it is considered necessary or advisable for the implementation of the intent of the Contract Documents, the County shall have authority to require special inspection or testing of the Work whether or not such Work be then fabricated, installed or completed. The Contractor shall pay for such special inspection or testing if the Work so inspected or tested is found not to comply with the requirements of the contract; the County shall pay for special inspection and testing if the Work is found to comply with the contract.

Neither the Construction Manager's authority to act under this Subparagraph, nor any decision made by the Construction Manager in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Construction Manager to the Contractor, any subcontractor, any of their agents or employees, or any other person performing any of the Work.

The Contractor shall provide such shop drawings, product data, and samples as may be required by the Construction Manager and/or as required by these Contract Documents.

The Construction Manager shall conduct inspections to determine Substantial Completion and Final Completion, and shall receive and forward to the County for review written warranties and related documents required by the Contract Documents and assembled by the Contractor. The Construction Manager shall approve and issue Certificates for Payment upon compliance with Substantial and Final Completion requirements indicated in General Conditions 00700-81, 00700-82, 00700-84 and 00700-85 of this Agreement.

Except as provided in General Condition 00700-48, the Contractor shall not be relieved from the Contractor's obligations to perform the work in accordance with the contract documents by the activities or duties of the County or any of its officers, employees, or agents, including inspections, tests or approvals, required or performed pursuant to this agreement.

00700-18 RESPONSIBILITY FOR ACTS OF EMPLOYEES

The Contractor shall employ only competent and skilled personnel. The Contractor shall, upon demand from the Construction Manager, immediately remove any superintendent, foreman or workman whom the Construction Manager may consider incompetent or undesirable.

The Contractor shall be responsible to the County for the acts and omissions of the Contractor's employees, subcontractors, and agents as well as any other persons performing work pursuant to this agreement for the Contractor.

00700-19 LABOR, MATERIALS, SUPPLIES, AND EQUIPMENT

Unless otherwise provided in this agreement, the Contractor shall make all arrangements with necessary support agencies and utility companies provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the execution and completion of the work.

00700-20 DISCIPLINE ON WORK SITE

The Contractor shall enforce strict discipline and good order among its employees and subcontractors at all times during the performance of the work, to include compliance with the Fulton County Drug Free Work Place Policy. The Contractor shall not employ any subcontractor who is not skilled in the task assigned to it. The Construction Manager may, by written notice, require the Contractor to remove from the work any subcontractor or employee deemed by the Construction Manager to be incompetent.

00700-21 HOURS OF OPERATION

All work at the construction site shall be performed during regular business hours of the Fulton County government, except upon the Construction Manager's prior written consent to other work hours. It is further understood that the Contractor's construction schedule is based on a normal 40 hours, five day work week, less Fulton County-

recognized holidays. Contractors work schedule shall not violate Fulton County Noise Ordinance by working hours inconsistent with the Fulton County Noise Ordinance. The County's current noise ordinance or other applicable ordinance shall govern. If the Contractor desires to work in excess of this limit, the Contractor shall submit a written request to the Construction Manager, a minimum of five days prior to the desired work date. The Contractor shall be responsible for any additional expenses incurred by the Owner as a result of the extended work hours, including resident inspection overtime. The cost associated with resident inspector overtime shall be deducted from the Contractor monthly payment request.

00700-22 FAMILIARITY WITH WORK CONDITIONS

The Contractor shall take all steps necessary to ascertain the nature and location of the work and the general and local conditions which may affect the work or the cost thereof. The Contractor's failure to fully acquaint itself with the conditions which may affect the work, including, but not limited to conditions relating to transportation, handling, storage of materials, availability of utilities, labor, water, roads, weather, topographic and subsurface conditions, other separate contracts to be entered into by the County relating to the project which may affect the work of the Contractor, applicable provisions of law, and the character and availability of equipment and facilities necessary prior to and during the performance of the work shall not relieve the Contractor of its responsibilities pursuant to this agreement and shall not constitute a basis for an equitable adjustment of the contract terms. The County reserves the right to perform with its own forces or to contract with other entities for other portions of the project work, in which case the Contractor's responsibility to assure its familiarity with work conditions hereunder shall include all coordination with such other contractors and the County necessary to insure that there is no interference between contractors as will delay or hinder any contractor in its prosecution of work on the project. The County assumes no responsibility for any understandings or representations concerning conditions of the work made by any of its officers, agents, or employees prior to the execution of this agreement.

00700-23 RIGHT OF ENTRY

The County reserves the right to enter the site of the work by such agent, including the Construction Manager, as it may elect for the purpose of inspecting the work or installing such collateral work as the County may desire. The Contractor shall provide safe facilities for such access so that the County and its agents may perform their functions.

00700-24 NOTICES

Any notice, order, instruction, claim or other written communication required pursuant to this agreement shall be deemed to have been delivered or received as follows:

Upon personal delivery to the Contractor, its authorized representative, or the Construction Manager on behalf of the County. Personal delivery may be accomplished by in-person hand delivery or bona fide overnight express service.

Three days after depositing in the United States mail a certified letter addressed to the Contractor or the Construction Manager for the County. For purposes of mailed notices, the County's mailing address shall be 141 Pryor Street, 6th Floor, Atlanta, Georgia 30303, or as the County shall have otherwise notified the Contractor. The Contractor's mailing address shall be the address stated in its proposal or as it shall have most recently notified the Construction Manager in writing.

00700-25 SAFETY

A. SAFETY, HEALTH AND LOSS PREVENTION

The Contractor shall be responsible for implementing a comprehensive project-specific safety, health and loss prevention program and employee substance abuse program for this project. All Sub-Contractors must either implement their own program or follow the Contractor's safety, health and loss prevention program and employee substance abuse program.

The Contractor's safety, health and loss prevention program and employee substance abuse program must meet or exceed all governmental regulations (OSHA, EPA, DOT, State, local), and any other specific Fulton County requirements

B. COUNTY'S SAFETY, HEALTH, AND LOSS PREVENTION PROCESS GUIDELINES AND REQUIREMENTS

The County and its agents reserve the right, but assume no duty, to establish and enforce safety, health, and loss prevention guidelines and to make the appropriate changes in the guidelines, for the protection of persons and property and to review the efficiency of all protective measures taken by the Contractor. The Contractor shall comply with all safety, health, and loss prevention process guidelines and requirements and changes made by the County or its agent(s). The issuance of any such guidelines or changes by the County or its agent(s) shall not relieve the Contractor of its duties and responsibilities under this Agreement, and the County or its agent(s) shall not thereby assume, nor be deemed to have assumed, any such duties or responsibilities of the Contractor.

C. COMPLIANCE OF WORK, EQUIPMENT, AND PROCEDURES WITH ALL APPLICABLE LAWS and REGULATIONS

All Work, whether performed by the Contractor or its Sub-Contractors of any tier, or anyone directly or indirectly employed by any of them, and all equipment, appliances, machinery, materials, tools and like items incorporated or used in the Work, shall be in compliance with and conform to:

1. All applicable laws, ordinances, rules, regulations and orders of any public, quasi-public or other governmental authority relating to the safety of persons and their protection against injury, specifically including, but in no event limited to, the Federal Occupational Safety and Health Act of 1970, as amended, and all rules and regulations now or hereafter in effect pursuant to said Act.
2. All rules, regulations, and requirements of the County or its agent(s) and its insurance carriers relating there to. In the event of a conflict or differing requirements the more stringent shall govern.

D. PROTECTION OF THE WORK

1. The Contractor shall, throughout the performance of the Work, maintain adequate and continuous protection of all Work and temporary facilities against loss or damage from whatever cause, shall protect the property of the County and third parties from loss or damage from whatever cause arising out of the performance of the Work, and shall comply with the requirements of the County or its agent(s) and its insurance carriers, and with all applicable laws, codes, rules and regulations, (as same may be

amended) with respect to the prevention of loss or damage to property as a result of fire or other hazards.

2. The County or its agent(s) may, but shall not be required to, make periodic inspections of the Project work area. In such event, however, the Contractor shall not be relieved of its aforesaid responsibilities and the County or its agent(s) shall not assume, nor shall it be deemed to have assumed, any responsibility otherwise imposed upon the assurance of Contractor by this Agreement.

E. SAFETY EQUIPMENT

1. The Contractor shall provide to each worker on the Project work area the proper safety equipment for the duties being performed by that worker and will not permit any worker on the Project work area who fails or refuses to use the same. The County or its agent shall have the right, but not the obligation, to order the removal of a worker from the Project work site for his/her failure to comply with safe practices or substance abuse policies.

F. EMERGENCIES

1. In any emergency affecting the safety of persons or property, or in the event of a claimed violation of any federal or state safety or health law or regulation, arising out of or in any way connected with the Work or its performance, the Contractor shall act immediately to prevent threatened damage, injury or loss and to remedy said violation. Failing such action the County or its agent(s) may immediately take whatever steps it deems necessary including, but not limited to, suspending the Work as provided in this Agreement.
2. The County or its agent(s) may offset any and all costs or expenses of whatever nature, including attorneys' fees, paid or incurred by the County or its agent(s) (whether such fees are for in-house counsel or counsel retained by the County or its agent), in taking the steps authorized by Section 00700-25(G) (1) above against any sums then or thereafter due to the Contractor. The Contractor shall defend, indemnify and hold the County, its officers, agents, and employees harmless against any and all costs or expenses caused by or arising from the exercise by the County of its authority to act in an emergency as set out herein. If the Contractor shall be entitled to any additional compensation or extension of time change order on account of emergency work not due to the fault or neglect of the Contractor or its Sub-Contractors, such additional compensation or extension of time shall be determined in accordance with General Condition 00700-52 and General Condition 00700-87 of this Agreement.

G. SUSPENSION OF THE WORK

1. Should, in the judgment of the County or its agent(s), the Contractor or any Sub-Contractor fail to provide a safe and healthy work place, the County or its agent shall have the right, but not the obligation, to suspend work in the unsafe areas until deficiencies are corrected. All costs of any nature (including, without limitation, overtime pay, liquidated damages or

other costs arising out of delays) resulting from the suspension, by whomsoever incurred, shall be borne by the Contractor.

2. Should the Contractor or any Sub-Contractor fail to provide a safe and healthy work place after being formally notified in writing by the County or its agents of such non-compliance, the contract may be terminated following the termination provision of the contract.

H. **CONTRACTOR'S INDEMNITY OF THE COUNTY FOR CONTRACTOR'S NON-COMPLIANCE WITH SAFETY PROGRAM**

1. The Contractor recognizes that it has sole responsibility to assure its Safety Program is implemented and to assure its construction services are safely provided. The Contractor shall indemnify, defend and hold the County and its agents harmless, from and against any and all liability (whether public or private), penalties (contractual or otherwise), losses, damages, costs, attorneys' fees, expenses, causes of action, claims or judgments resulting, either in whole or in part, from any failure of the Contractor, its Sub-Contractors of any tier or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, to comply with the safety requirements of the contract. The Contractor shall not be relieved of its responsibilities under the safety requirements of the Contract should the County or its agent(s) act or fail to act pursuant to its rights hereunder.
2. The Contractor shall not raise as a defense to its obligation to indemnify under this Subparagraph I any failure of those indemnified hereunder to assure Contractor operates safely, it being understood and agreed that no such failure shall relieve the Contractor from its obligation to assure safe operations or from its obligation to so indemnify. The Contractor also hereby waives any rights it may have to seek contribution, either directly or indirectly, from those indemnified hereunder.
3. In any and all claims against those indemnified hereunder by any employee of the Contractor, any Sub-Contractor of any tier or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Subparagraph I shall not be limited in any way as to the amount or type of damages, compensation or benefits payable by or for the Contractor or any Sub-Contractor of any tier under any workers' compensation act, disability benefit or other employee benefit acts.

00700-26 BLASTING AND EXCAVATION

The Contractor acknowledges that it is fully aware of the contents and requirements of O.C.G.A. § 25-9-1 through 25-9-12 concerning blasting and excavation near underground gas pipes and facilities and shall fully comply therewith.

00700-27 HIGH VOLTAGE LINES

The Contractor acknowledges that it is fully aware of the contents and requirements O.C.G.A. § 46-3-30 through 46-3-39 concerning safeguards against contact with high voltage lines, and the Contractor shall fully comply with said provisions.

00700-28 SCAFFOLDING AND STAGING

The Contractor acknowledges that it is the person responsible for employing and directing others to perform labor within the meaning of O.C.G.A. § 34-1-1 and agrees to comply with said provisions.

00700-29 CLEAN-UP

The Contractor shall clean up all refuse, rubbish, scrap materials, and debris caused by its operations to the end that the site of the work shall present a neat, orderly and workmanlike appearance at all times.

00700-30 PROTECTION OF WORK

The Contractor shall be responsible for maintenance and protection of the work, which shall include any County-furnished supplies, material, equipment, until final completion of this agreement and acceptance of the work as defined herein. Any portion of the work suffering injury, damage or loss shall be considered defective and shall be corrected or replaced by the Contractor without additional cost to the County.

00700-31 REJECTED WORK

The Contractor shall promptly remove from the project all work rejected by the Construction Manager for failure to comply with the contract documents and the Contractor shall promptly replace and re-execute the work in accordance with the contract documents and without expense to the County. The Contractor shall also bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

00700-32 DEFECTIVE WORK

If the Contractor defaults or neglects to carry out any portion of the work in accordance with the contract documents, and fails within three days after receipt of written notice from the Construction Manager to commence and continue correction of such default or neglect with diligence and promptness, the County may, after three days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the County may have, make good such deficiencies and complete all or any portion of any work through such means as the County may select, including the use of a separate Contractor. In such case, an appropriate change order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies. In the event the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the County on demand.

The County may, at its option, accept defective or nonconforming work instead of requiring its removal or correction. In such case, a change order shall be issued reducing the price due the contractor to the extent appropriate and equitable. Such contract price adjustment shall be effected whether or not final payment has been made.

00700-33 WARRANTY OF NEW MATERIALS

The Contractor warrants to the County that all materials and equipment furnished under this contract will be new unless otherwise specified, and the Contractor further warrants that all work will be of good quality, free from faults and defects, and in conformance with the contract documents. The warranty set forth in this paragraph shall survive final acceptance of the work.

00700-34 CONTRACTOR'S WARRANTY OF THE WORK

If within one year after the date of issuance of the certificate of final payment pursuant to General Condition 84, or within such longer period of time as may be prescribed by law or by the term of any applicable special warranty required by the contract documents, any of the work is found to be defective or not in accordance with the contract documents, the Contractor shall correct such work promptly after receipt of written notice from the Construction Manager to do so. This obligation shall survive both final payment for the work and termination of the contract.

00700-35 ASSIGNMENT OF MANUFACTURERS' WARRANTIES

Without limiting the responsibility or liability of the Contractor pursuant to this agreement, all warranties given by manufacturers on materials or equipment incorporated in the work are hereby assigned by the Contractor to the County. If requested, the Contractor shall execute formal assignments of said manufacturer's warranties to the County. All such warranties shall be directly enforceable by the County.

00700-36 WARRANTIES IMPLIED BY LAW

The warranties contained in this agreement, as well as those warranties implied by law, shall be deemed cumulative and shall not be deemed alternative or exclusive. No one or more of the warranties contained herein shall be deemed to alter or limit any other.

00700-37 STOP WORK ORDERS

In the event that the Contractor fails to correct defective work as required by the contract documents or fails to carry out the work in accordance with contract documents, the Construction Manager, in writing, may order the Contractor to stop work until the cause for such order has been eliminated. This right of the County to stop work shall not give rise to any duty on the part of the County or the Construction Manager to execute this right for the benefit of the Contractor or for any other person or entity.

00700-38 TERMINATION FOR CAUSE

If the Contractor is adjudged bankrupt, makes a general assignment for the benefit of creditors, suffers the appointment of a receiver on account of its insolvency, fails to supply sufficient properly skilled workers or materials, fails to make prompt payment to subcontractors or materialmen, disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, fails to diligently prosecute the work, or is otherwise guilty of a material violation of this agreement and fails within seven days after receipt of written notice to commence and continue correction of such default, neglect, or violation with diligence and promptness, the County may, after seven days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the County may have, terminate the employment of the Contractor and take possession of the site as well as all materials, equipment, tools, construction equipment and machinery thereon. The County may finish the work by whatever methods the County deems expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is completed. If the unpaid balance of the contract price exceeds the cost of completing the work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the County on demand. This obligation for payment shall survive the termination of the contract. Termination of this agreement pursuant to this paragraph may result in disqualification of the Contractor from bidding on future County contracts.

00700-39 TERMINATION FOR CONVENIENCE

The County may, at any time upon written notice to the Contractor, terminate the whole or any portion of the work for the convenience of the County. The effective date of the terminations shall be provided in the written notice. Said termination shall be without prejudice to any right or remedy of the County provided herein. In addition, in the event this agreement has been terminated due to the default of the Contractor, and if it is later determined that the Contractor was not in default pursuant to the provisions of this agreement at the time of termination, then such termination shall be considered a termination for convenience pursuant to this paragraph.

00700-40 TERMINATION FOR CONVENIENCE - PAYMENT

If the Contract is terminated for convenience by the Owner as provided in this article, Contractor will be paid compensation for those services actually performed as approved by the Owner or his representative. Partially completed tasks will be compensated for based on a signed statement of completion prepared by the Project Manager and submitted to the Contractor which shall itemize each task element and briefly state what work has been completed and what work remains to be done. Contractor shall also be paid for reasonable costs for the orderly filing and closing of the project.

00700-41 TERMINATION FOR CONVENIENCE - PAYMENT LIMITATIONS

Except for normal spoilage, and except to the extent that the County shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor the fair value, as determined by the Construction Manager, of property which is destroyed, lost, stolen or damaged so as to become undeliverable to the County or to another buyer.

00700-42 COST TO CURE

If the County terminates for cause the whole or any part of the work pursuant to this agreement, then the County may procure upon such terms and in such manner as the Construction Manager may deem appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the County for any excess costs for such similar supplies or services. The Contractor shall continue the performance of this agreement to the extent not terminated hereunder.

00700-43 ATTORNEY'S FEES

Should the Contractor default pursuant to any of the provisions of this agreement, the Contractor and its surety shall pay to the County such reasonable attorney's fees as the County may expend as a result thereof and all costs, expenses, and filing fees incidental thereto.

00700-44 CONTRACTOR'S RESPONSIBILITIES UPON TERMINATION

After receipt of a notice of termination from the County, and except as otherwise directed by the Construction Manager, the Contractor shall:

1. Stop work under the contract on the date and to the extent specified in the notice of termination;
2. Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the agreement as is not terminated;

3. Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the notice of termination;
4. Assign to the County in the manner, at the times, and to the extent directed by the Construction Manager, all of the rights, title and interest of the Contractor under the orders and subcontracts so terminated, in which case the County shall have the right, at its discretion, to settle or pay any and all claims arising out of the termination of such orders or subcontracts;
5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts with the approval or ratification of the Construction Manager, to the extent the Construction Manager may require, which approval or ratification shall be final for all purposes;
6. Transfer title and deliver to the entity or entities designated by the Construction Manager, in the manner, at the times, and to the extent, if any, directed by the Construction Manager, and to the extent specifically produced or specifically acquired by the Contractor for the performance of such portion of the work as has been terminated:
 - a. The fabricated or un-fabricated parts, work, and progress, partially completed supplies, and equipment, materials, parts, tools, dyes, jigs, and other fixtures, completed work, supplies, and other material produced as a part of or acquired in connection with the performance of the work terminated by the notice of termination; and
 - b. The completed or partially completed plans, drawings, information, and other property to the work.
7. Use its best efforts to sell in the manner, at the times, to the extent, and at the prices directed or authorized by the Construction Manager, any property described in Section 6 of this paragraph, provided, however, that the Contractor shall not be required to extend credit to any buyer and further provided that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the County to the Contractor pursuant to this agreement.
8. Complete performance of such part of the work as shall not have been terminated by the notice of termination; and
9. Take such action as may be necessary, or as the Construction Manager may direct, for the protection and preservation of the property related to the agreement which is in the possession of the Contractor and in which the County has or may acquire an interest.

00700-45 RECORDS

The Contractor shall preserve and make available to the County all of its records, books, documents and other evidence bearing on the costs and expenses of the Contractor and any subcontractor pursuant to this agreement upon three days advance notice to the Contractor.

00700-46 DEDUCTIONS

In arriving at any amount due the Contractor pursuant to the terms of this agreement, there shall be deducted all liquidated damages, advance payments made to the Contractor applicable to the termination portion of the contract, the amount of any claim which the County may have against the Contractor, the amount determined

By the Construction Manager to be necessary to protect the County against loss due to outstanding potential liens or claims, and the agreed price of any materials acquired or sold by the Contractor and not otherwise recovered by or credited to the County.

00700-47 REIMBURSEMENT OF THE COUNTY

In the event of termination, the Contractor shall refund to the County any amount paid by the County to the Contractor in excess of the costs properly reimbursable to the Contractor.

00700-48 SUSPENSION, INTERRUPTION, DELAY, DAMAGES

The Contractor shall be entitled to only those damages and that relief from termination by the County as specifically set forth in this agreement. The Construction Manager may issue a written order requiring the Contractor to suspend, delay or interrupt all or any part of the work for such period of time as the County may determine to be appropriate for the convenience of the County. If the Construction Manager issues a written order requiring the Contractor to suspend, delay or interrupt all or any part of the work and if the performance of the work is interrupted for an unreasonable period of time by an act of the County or any of its officers, agents, employees, contractors, or consultants in the administration of this agreement, an equitable adjustment may be made for any increase in the Contractor's costs of performance and any increase in the time required for performance of the work necessarily caused by the unreasonable suspension, delay, or interruption. Any equitable adjustment shall be reduced to writing and shall constitute a modification to this agreement. In no event, however, shall an equitable adjustment be made to the extent that performance of this agreement would have been suspended, delayed or interrupted by any other cause, including the fault or negligence of the Contractor. No claim for an equitable adjustment pursuant to this paragraph shall be permitted before the Contractor shall have notified the Construction Manager in writing of the act or failure to act involved, and no claim shall be allowed unless asserted in writing to the Construction Manager within ten days after the termination of such suspension, delay or interruption.

00700-49 COMMENCEMENT AND DURATION OF WORK

The County may issue a Notice to Proceed at any time within 120 days following execution of the contract by the County. The Contractor shall commence work pursuant to this agreement within ten days of mailing or delivery of written notice to proceed. The Contractor shall diligently prosecute the work to completion within the time specified therefore in the Agreement. The capacity of the Contractor's construction and manufacturing equipment and plan, sequence and method of operation and forces employed, including management and supervisory personnel, shall be such as to insure completion of the work within the time specified in the Agreement. The Contractor and County hereby agree that the contract time for completion of the work is reasonable taking into consideration the average climatic conditions prevailing in the locality of the work and anticipated work schedules of other contractors whose activities are in conjunction with or may affect the work under this contract.

00700-50 TIME OF THE ESSENCE

All time limits stated in this agreement are of the essence of this contract.

00700-51 IMPACT DAMAGES

Except as specifically provided pursuant to a stop work order or change order, the Contractor shall not be entitled to payment or compensation of any kind from the County for direct or indirect or impact damages including, but not limited to, costs of acceleration arising because of delay, disruption, interference or hindrance from any cause whatsoever whether such delay, disruption, interference or hindrance is reasonable or unreasonable, foreseeable or unforeseeable, or avoidable, provided, however, that this provision shall not preclude the recovery of damages by the Contractor for hindrances or delays due solely to fraud or bad faith on the part of the County, its agents, or employees. The Contractor shall be entitled only to extensions in the time required for performance of the work as specifically provided in the contract.

00700-52 DELAY

The Contractor may be entitled to an extension of the contract time, but not an increase in the contract price or damages, for delays arising from unforeseeable causes beyond the control and without the fault or negligence of the Contractor or its subcontractors for labor strikes, acts of God, acts of the public enemy, acts of the state, federal or local government in its sovereign capacity, by acts of another separate contractor, or by an act or neglect of the County.

00700-53 INCLEMENT WEATHER

The Contractor shall not be entitled to an extension of the contract time due to normal inclement weather. Unless the Contractor can substantiate to the satisfaction of the Construction Manager that there was greater than normal inclement weather and that such greater than normal inclement weather actually delayed the work, the Contractor shall not be entitled to an extension of time therefore. The following shall be considered the normal inclement weather days for each month listed, and extensions of time shall be granted in increments of not less than one half day only for inclement weather in excess of the days set out.

January	10 days
February	10 days
March	7 days
April	6 days
May	4 days
June	3 days
July	4 days
August	2 days
September	2 days
October	3 days
November	6 days
December	9 days

00700-54 DELAY - NOTICE AND CLAIM

The Contractor shall not receive an extension of time unless a Notice of Delay is filed with the Construction Manager within ten days of the first instance of such delay, disruption, interference or hindrance and a written Statement of the Claim is filed with the Construction Manager within 20 days of the first such instance. In the event that the Contractor fails to comply with this provision, it waives any claim which it may have for an extension of time pursuant to this agreement.

00700-55 STATEMENT OF CLAIM - CONTENTS

The Statement of Claim referenced in Article 00700-54 shall include specific information concerning the nature of the delay, the date of commencement of the delay, the construction activities affected by the delay, the person or organization responsible for the delay, the anticipated extent of the delay, and any recommended action to avoid or minimize the delay.

00700-56 WORK BEHIND SCHEDULE, REMEDY BY CONTRACTOR

If the work actually in place falls behind the currently updated and approved schedule, and it becomes apparent from the current schedule that work will not be completed within the contract time, the Contractor agrees that it will, as necessary, or as directed by the Construction Manager, take action at no additional cost to the County to improve the progress of the work, including increasing manpower, increasing the number of working hours per shift or shifts per working day, increasing the amount of equipment at the site, and any other measure reasonably required to complete the work in a timely fashion.

00700-57 DILIGENCE

The Contractor's failure to substantially comply with the requirements of the preceding paragraph may be grounds for determination by the County that the Contractor is failing to prosecute the work with such diligence as will insure its completion within the time specified. In such event, the County shall have the right to furnish, from its own forces or by contract, such additional labor and materials as may be required to comply with the schedule after 48 hours written notice to the Contractor, and the Contractor shall be liable for such costs incurred by the County.

00700-58 SET-OFFS

Any monies due to the Contractor pursuant to the preceding paragraph of this agreement may be deducted by the County against monies due from the County to the Contractor.

00700-59 REMEDIES CUMULATIVE

The remedies of the County under Articles 00700-56, 00700-57, and 00700-58 are in addition to and without prejudice to all of the rights and remedies of the County at law, in equity, or contained in this agreement.

00700-60 TITLE TO MATERIALS

No materials or supplies shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales contract or other agreement by which any interest is retained by the seller. The Contractor hereby warrants that it has good and marketable title to all materials and supplies used by it in the work, and

the Contractor further warrants that all materials and supplies shall be free from all liens, claims, or encumbrances at the time of incorporation in the work.

00700-61 INSPECTION OF MATERIALS

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards and in accordance with the requirements of the contract documents. Additional tests performed after the rejection of materials or equipment shall be at the Contractor's expense.

00700-62 CONSTRUCTION MANAGER'S PRESENCE DURING TESTING

All tests performed by the Contractor shall be witnessed by the Construction Manager unless the requirement therefore is waived in writing. The Construction Manager may perform additional tests on materials previously tested by the Contractor, and the Contractor shall furnish samples for this purpose as requested.

00700-63 MATERIALS INCORPORATED IN WORK

The Contractor shall furnish all materials and equipment to be incorporated in the work. All such materials or equipment shall be new and of the highest quality available. Manufactured materials and equipment shall be obtained from sources which are currently manufacturing such materials, except as otherwise specifically approved by the Construction Manager.

00700-64 STORAGE OF MATERIALS

Materials and equipment to be incorporated in the work shall be stored in such a manner as to preserve their quality and fitness for the work and to facilitate inspection.

00700-65 PAYROLL REPORTS

The Contractor may be required to furnish payroll reports to the Construction Manager as required by the Owner Controlled Insurance Program.

00700-66 CONTRACTORS' REPRESENTATIVE

Before beginning work, the Contractor shall notify the Construction Manager in writing of one person within its organization who shall have complete authority to supervise the work, receive orders from the Construction Manager, and represent the Contractor in all matters arising pursuant to this agreement. The Contractor shall not remove its representative without first designating in writing a new representative. The Contractor's representative shall normally be present at or about the site of work while the work is in progress. When neither the Contractor nor its representative is present at the work site, the superintendent, foreman, or other of the Contractor' employee in charge of the work shall be an authorized representative of the Contractor.

00700-67 SPECIALTY SUB-CONTRACTORS

The Contractor may utilize the services of specialty subcontractors on those parts of the project which, under normal contracting practices, are performed by specialty subcontractors. The Contractor shall not award more than seventy-five percent of the work to subcontractors.

00700-68 INSPECTION BY THE CONSTRUCTION MANAGER

All work pursuant to this agreement shall be subject to inspection by the Construction Manager for conformity with contract drawings and specifications. The Contractor shall

give the Construction Manager reasonable advance notice of operations requiring special inspection of a portion of the work.

00700-69 WORK COVERED PRIOR TO CONSTRUCTION MANAGER'S INSPECTION

In the event that work is covered or completed without the approval of the Construction Manager, and such approval is required by the specifications or required in advance by the Construction Manager, the Contractor shall bear all costs involved in inspection notwithstanding conformance of such portion of the work to the contract drawings and specifications.

00700-70 SCHEDULING OF THE WORK

The work of this contract shall be planned, scheduled, executed, and reported as required by the Contract Documents.

00700-71 PROGRESS ESTIMATES

The Contractor shall prepare a written report for the Construction Manager's approval, on County forms, of the total value of work performed and materials and equipment obtained to the date of submission. Such a report must accompany each request for a progress payment and is subject to review and approval by the Construction Manager. Approval of a progress estimate or tendering of a progress payment shall not be considered an approval or acceptance of any work performed, and all estimates and payments shall be subject to correction in subsequent estimates. Progress payments shall be made for all completed activities and for materials suitably stored on-site.

00700-72 PROGRESS PAYMENTS

Upon approval of each monthly estimate of work performed and materials furnished, the Construction Manager shall approve payment to the Contractor for the estimated value of such work, materials, and equipment, less the amount of all prior payments and any liquidated damages. The Contractor will be paid 100 percent, less retainage, of the cost of materials received and properly stored on-site but not incorporated into the work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale to establish the County's title to such materials or equipment. The Contractor's request for payment shall provide sufficient detail as to the work completed or materials purchased for which payment is requested to permit meaningful review by the Construction Manager.

00700-73 TIME OF PAYMENT

The Contractor will be paid within 45 days following receipt of an approved Progress Estimate. The Contractor expressly agrees that the payment provisions within this Contract shall supersede the rates of interest, payment periods, and contract and subcontract terms provided for under the Georgia Prompt Pay Act, O.C.G.A. §13-11-1 et seq., and that the rates of interest, payment periods, and contract and subcontract terms provided for under the Prompt Pay Act shall have no application to this Contract. The County shall not be liable for any late payment interest or penalty.

00700-74 RETAINAGE

The County shall retain from each progress payment ten percent of the estimated value of the work performed until the progress payments, including retainage, total 50 percent of the contract price. If a contract includes two or more projects or assignments that have been separately priced and have separate budgets, and the performances of such projects or assignments are not related to or dependent upon the performance of any

other, the 50 per cent limit shall be based upon the price for each individual project or assignment. Thereafter, no further retainage shall be withheld so long as the Contractor is making satisfactory progress to insure completion of the work within the time specified therefore. The County may reinstate the ten percent retainage in the event the Construction Manager determines that the Contractor is not making satisfactory progress to complete the work within the time specified in this agreement or in the event that the Construction Manager provides a specific cause for such withholding. The County may also withhold retainage upon substantial completion of the work as provided in O.C.G.A. §13-10-81(c). Interest may be paid upon the retainage in accordance with Georgia law.

00700-75 PAYMENT OF SUBCONTRACTORS

The Contractor shall promptly pay each subcontractor upon the receipt of payment from the County. Such payment shall be made from the amount paid to the Contractor pursuant to the subcontractor's work. The Contractor shall also maintain the records of the percentage retained from payments to the Contractor pursuant to such subcontractor's work. The Contractor shall procure agreements from each subcontractor requiring each subcontractor to pay their subcontractors, agents and employees in a similar manner. The County reserves the right to inquire of any subcontractor, supplier, materialmen, or subconsultant, the status of any indebtedness of the Contractor. The County further reserves the right to require the Contractor to designate on each instrument of payment exceeding \$400.00 to subcontractors, suppliers, materialmen, and subconsultants that such payment is on account of the work under this Contract.

00700-76 COUNTY'S RESPONSIBILITIES TO SUBCONTRACTORS

Neither the County nor the Construction Manager shall have any obligation to pay any subcontractor except as otherwise required by law.

00700-77 PROGRESS PAYMENTS - ACCEPTANCE OF WORK

Certification of progress payments, as well as the actual payment thereof, shall not constitute the County's acceptance of work performed pursuant to this agreement.

00700-78 PAYMENTS IN TRUST

All sums paid to the Contractor pursuant to this agreement are hereby declared to constitute trust funds in the hands of the contractor to be applied first to the payment of claims of subcontractors, laborers, and suppliers arising out of the work, to claims for utilities furnished and taxes imposed, and to the payment of premiums on surety and other bonds and on insurance for any other application.

00700-79 JOINT PAYMENTS

The County reserves the right to issue any progress payment or final payment by check jointly to the Contractor and any subcontractor or supplier.

00700-80 RIGHT TO WITHHOLD PAYMENT

The Construction Manager may decline to approve payment and may withhold payment in whole or in part to the extent reasonable and necessary to protect the County against loss due to defective work, probable or actual third party claims, the Contractor's failure to pay subcontractors or materialmen, reasonable evidence that the work will not be completed within the contract time or contract price or damage to the County or any other contractor on the project.

00700-81 CERTIFICATE OF SUBSTANTIAL COMPLETION

Upon the Contractor's submission of a request for a certificate of Substantial Completion, the Construction Manager shall inspect the work and determine whether the work is Substantially Complete. If the work is Substantially Complete, the Construction Manager shall issue a certificate of Substantial Completion of the work which shall establish the date of Substantial Completion, shall state the responsibilities of the County and the Contractor for security, maintenance, heat, utilities, damage to the work and insurance, and shall fix the time within which the Contractor shall complete the items submitted by the Contractor as requiring correction or further work. The certificate of substantial completion of the work shall be submitted to the County and the Contractor for their written acceptance of the responsibilities assigned to them pursuant to such certificate.

If in the sole opinion of the Construction Manager, the work is not substantially complete, the Construction Manager shall notify the Contractor of such, in writing, and outline requirements to be met to achieve Substantial Completion.

00700-82 PAYMENT UPON SUBSTANTIAL COMPLETION

Upon Substantial Completion of the work and upon application by the Contractor and approval by the Construction Manager, the County shall make payment reflecting 100% work completed, less value of work remaining as determined by Construction Manager and any authorized retainage.

00700-83 COMMENCEMENT OF WARRANTIES

Warranties required by this agreement shall commence on the date of final completion of the project as determined under Article 00700-84 unless otherwise provided in the certificate of Substantial Completion.

00700-84 FINAL PAYMENT - WAIVER OF CLAIMS, DISPUTE OF FINAL PAYMENT

The acceptance of the Substantial Completion payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of application for payment at Substantial Completion and except for the retainage sums due at final acceptance. Following the Construction Manager's issuance of the certificate of Substantial Completion and the Contractor's completion of the work pursuant to this agreement, the Contractor shall forward to the Construction Manager a written notice that the work is ready for final inspection and acceptance. If after inspection the Construction Manager certifies that the work is complete and issues written notification of such to the Contractor, the Contractor shall forward to the Construction Manager a final application for payment. The Construction Manager shall issue a certificate for payment, which shall approve final payment to the Contractor and shall establish the date of final completion.

In the event the Contractor timely disputes the amount of the final payment, the amount due the Contractor shall be deemed by the Contractor and the County to be an unliquidated sum and no interest shall accrue or be payable on the sum finally determined to be due to the Contractor for any period prior to final determination of such sum, whether such determination be by agreement of the Contractor and the County or by final judgment of the proper court in the event of litigation between the County and the Contractor. The Contractor specifically waives and renounces any and all rights it may have under O.C.G.A. §13-6-13 and agrees that in the event suit is brought by the Contractor against the County for any sum claimed by the Contractor under the Contract

or for any extra or additional work, no interest shall be awarded on any sum found to be due from the County to the Contractor in the final judgment entered in such suit. All final judgments shall draw interest at the legal rate, as specified by law.

00700-85 DOCUMENTATION OF COMPLETION OF WORK

Neither the final payment nor the remaining retainage shall become due until the Contractor submits the following documents to the Construction Manager:

- a. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work have been paid other otherwise satisfied;
- b. The surety's consent to final payment; and
- c. Any other data reasonably required by the County or Construction Manager establishing payment or satisfaction of all such obligations, including releases, waivers of liens, and documents of satisfaction of debts.

In the event that a subcontractor refuses to furnish a release or waiver as required by the County or Construction Manager, the Contractor may furnish a bond satisfactory to the County to indemnify the County against such loss. In the event that any lien or indebtedness remains unsatisfied after all payments are made, the contractor shall refund to the County all moneys that the County may become compelled to pay in discharging such lien or other indebtedness, including all costs and reasonable attorney's fees.

00700-86 GOVERNING LAW

Each and every provision of this agreement shall be construed in accordance with and governed by Georgia law. The parties acknowledge that this contract is executed in Fulton County, Georgia and that the contract is to be performed in Fulton County, Georgia. Each party hereby consents to the Fulton Superior Court's sole jurisdiction over any dispute which arises as a result of the execution or performance of this agreement, and each party hereby waives any and all objections to venue in the Fulton Superior Court.

00700-87 CHANGES IN THE WORK

A. CHANGE ORDERS

1. A Change Order is a written order to the Contractor signed to show the approval and the authorization of the County, issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum or the Contract Time. Change Orders shall be written using forms designated by the County with Contractor providing supporting documentation as required by the Construction Manager. The Contract Sum and the Contract Time may be changed only by approved Change Order pursuant to Fulton County Procedure 800-6. The amount payable by the Change Order is payment in full for all direct and indirect costs incurred and related to the work under said Change Order, including but not limited to delays, imports, acceleration, disruption and extended overhead. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including the adjustment in either or both of the Contract Sum or the Contract Time.

2. The County, without invalidating the Contract, may order changes in the Work within the general scope of the Contract as defined herein. The time allowed for performance of the work and the contract price to be paid to the Contractor may be adjusted accordingly.
3. The cost or credit to the County resulting from a change in the Work shall be determined in one or more of the following ways:
 - a. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 - b. By unit prices stated in the Contract Documents or subsequently agreed upon;
 - c. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
 - d. By the method provided in Subparagraph A4 below.
4. If none of the methods set forth in Subparagraphs 3a, 3b, or 3c above is agreed upon, the Contractor, provided a written order signed by the Construction Manager is received, shall promptly proceed with the Work involved. The cost of such Work shall then be determined by the Construction Manager on basis of the reasonable expenditures and savings of those performing the Work attributable to the change. The cost of the change shall include only the items listed in Subparagraph 5a below, and in the case of either a decrease or an increase in the Contract Sum, an allowance for overhead and profit in accordance with the schedules set forth in Subparagraphs 5b and 6 below shall be applied to the cost or credit.
 - a. In such case, and also under Subparagraph 3a above, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting of all actual costs expended, together with appropriate supporting data for inclusion in a Change Order.
 - b. All hourly rate charges shall be submitted to the Construction Manager for prior review and approval. All hourly rate charges shall be properly supported as required by the Construction Manager with certified payrolls, or their acceptable equivalent. When authorized to proceed for a given change and actual expenditures have been made prior to execution of a Change Order for the entire change, such actual expenditures may be summarized monthly, and if approved, incorporated into a Change Order. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase or decrease, if any, with respect to that change.
5. In Subparagraphs 3 and 4 above, the items included in "Cost and Overhead" shall be based on the following schedule:
 - a. Unless otherwise provided in the Contract Documents, "Cost" shall be limited to the following: cost of materials incorporated into the Work, including sales tax and cost of delivery; cost of direct

- labor (labor cost may include a pro rata share of foreman's account of the change) including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; workers' or workmen's compensation insurance; rental value of equipment and machinery; costs for preparing Shop Drawings.
- b. Unless otherwise provided in the Contract Documents, "Overhead" shall include the following: bond and insurance premiums including increase and decreases from change in the Work, supervision, superintendence, construction parking, wages of timekeepers, watchmen and clerks, small tools, consumable supplies, expendables, incidentals, general office expense, the cost of additional reproduction for the Contractor's subcontractors beyond that agreed upon in the Contract Documents, construction parking, any additional costs of craft supervision by the Contractor's or subcontractors' superintendents, and overhead charges which would be customary and expended regardless of the change in the Work due to other overlapping activities which are included as part of the original Contract, and all other expenses not included in "Cost" above.
 - c. In the event that a change is issued by the County which would require the expenditure of substantial amounts of special supervision (beyond the foreman level) by the Contractor, the Contractor may, at the sole direction of the Construction Manager, be allowed to incorporate these charges into the agreement cost for the change.
6. In Subparagraphs 3 and 4 above, the allowance for overhead and profit combined, included in the total cost or credit to the County, shall be based on the following schedule:
- a. For the Contractor, for any work performed by the Contractor's own forces, ten (10) percent of the cost.
 - b. For the Contractor, for any work performed by a Contractor's subcontractor, five (5) percent of the amount due the subcontractor.
 - c. For each subcontractor or sub-subcontractor involved, for any work performed by that subcontractor's or sub-subcontractor's own forces, ten (10) percent of the cost.
 - d. For each subcontractor, for work performed by a sub-subcontractor, five (5) percent of the amount due to the sub-subcontractor.
 - e. Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 5 above unless modified otherwise.
7. In order to facilitate checking of quotations for extras or credits, all proposals or bids, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs,

including labor cost, materials and subcontracts. Labor and materials shall be itemized in the manner defined in Subparagraph 4 above. Where major cost items are subcontracts, they shall be itemized also. In no case shall a change be approved without such itemization.

8. No payment shall be made for any changes to the contract that are not included in a fully executed Change Order.

B. CONCEALED, UNKNOWN AND DIFFERING CONDITIONS

1. Should concealed conditions be encountered in the performance of the Work below the surface of the ground, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the Contract Documents, or should unknown physical conditions below the surface of the ground or concealed or unknown conditions in an existing structure of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract, be encountered, the Contract Sum and Contract Time shall be equitably adjusted by Change Order upon request by either party made **within twenty (20) days after the first observance** of the conditions. No such request for equitable adjustment shall be valid unless the Contractor complies with this (20) days notice and Subparagraph C.1. below.
2. The Contractor shall promptly, and before such conditions are disturbed, notify the Construction Manager in writing of any claim of concealed, unknown or differing conditions pursuant to this paragraph. The Construction Manager shall authorize the Engineer to investigate the conditions, and if it is found that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work under this Contract, whether or not changed as a result of such conditions, an equitable adjustment shall be recommended to the Construction Manager.
3. No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in (a) above, prior to disturbing the condition.
4. No claim by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this Contract.
5. Any materially differing site condition as between what is shown on the Drawings and Specifications and actually found on site shall be immediately reported to the Construction Manager in writing prior to the commencement of Work at the site. Failure of the Contractor to notify the Construction Manager in writing of the differing site condition prior to performance of Work at the site shall constitute a waiver of any claim for additional monies. Any Change Order necessitated by the differing site condition shall be processed as provided under "Changes in the Contract".

C. REQUESTS FOR ADDITIONAL COST

1. If the Contractor wishes to request an increase in the Contract Sum, the Contractor shall give the Construction Manager written notice thereof

within twenty (20) days after the occurrence of the event, or identification of the conditions, giving rise to such request. This notice shall be give by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Article 00700-25 and Subparagraph A.4 above. No such request shall be valid unless so made within the twenty (20) days specified above. If the County and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the Construction Manager. Any change in the Contract Sum resulting from such claim shall be documented by Change Order.

2. If the Contractor claims that addition cost is involved because of, but not limited to (1) any written interpretation pursuant to General Condition 00700-17 of this Agreement, (2) any order by the County to stop the Work pursuant to Articles 00700-25 and 00700-37 of this Agreement where the Contractor was not at fault, or any such order by the Construction Manager as the County's agent, or (3) any written order for a minor change in the Work issued pursuant to Paragraph D below, the Contractor shall submit a request for an increase in the Contract Sum as provided in Subparagraph C.1 above. No such claim shall be valid unless the Contractor complies with Subparagraph C.1 above and approved by the County pursuant to Change Order Policy 800-6.

D. MINOR CHANGES IN THE WORK

The Construction Manager may order minor changes in the Work not involving an adjustment in the Contract Price, extension of the time allowed for performance of the work and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by a written Change Directive issued by the Construction Manager, and shall be binding on the County and the Contractor. The Contractor shall carry out such written orders promptly.

E. BONDS

If any change order results in an increase in the contract price, the contractor shall increase the penal sum of the performance and payment bonds to equal the increased price.

00700-88 DISAGREEMENT WITH ORDERS FOR CHANGE

Contractor's written acceptance of a Change Order or other order for changes shall constitute his final and binding agreement to the provisions thereof and a waiver of all claims in connection therewith, whether direct or consequential in nature. Should Contractor disagree with any order for changes, he may submit a notice of potential claim to the Construction Manager, at such time as the order is set forth in the form of a Change Order. Disagreement with the provisions of an order for changes shall not relieve Contractor of his obligation under Article 00700-87 of this Agreement.

00700-89 NO WAIVER OF REMEDIES

Exercise by the County of any remedy is not exclusive of any other remedy available to County and shall not constitute a waiver of any such other remedies. Failure of the County to exercise any remedy, including breach of contract remedies, shall not preclude the County from exercising such remedies in similar circumstances in the future.

00700-90 LAND AND RIGHTS-OF-WAY

The owner will provide, as indicated in the Contract Documents and prior to Notice to Proceed, the lands upon which the work is to be done, right-of-way for access thereto, and such other lands which are designated for the use of the Contractor. The Contractor shall confine the Contractor's work and all associated activities to the easements and other areas designated for the Contractor's use. The Contractor shall comply with any limits on construction methods and practices which may be required by easement agreements. If, due to some unforeseen reason, the necessary easements are not obtained, the Contractor shall receive an equitable extension of contract time dependent upon the effect on the critical path of the project schedule or the County may terminate the Contract for its convenience.

00700-91 COORDINATION WITH STATE DEPARTMENT OF TRANSPORTATION

No clearing or grading shall be completed by Contractor within the State Department of Transportation (DOT) area under construction. The Contractor must coordinate his construction scheduling with DOT.

If the Contractor begins work before DOT's completion date, he must obtain the approval of DOT before starting work in the area. The state DOT has the right to stop the Contractor's work the DOT area.

The Contractor shall receive no additional compensation or damages resulting from delay or work stoppage from DOT actions or scheduling.

Contractor shall obtain DOT drawings of the DOT, project area for verification of road geometry, storm drains, etc. from Georgia Department of Transportation or Fulton County. The Contractor is responsible for obtaining any pertinent DOT revisions.

I N D E X

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EXHIBIT A
FINAL AFFIDAVIT

TO FULTON COUNTY, GEORGIA

I, _____, hereby certify that all suppliers of materials, equipment and service, subcontractors, mechanic, and laborers employed by _____ or any of his subcontractors in connection with the design and/or construction of _____ at Fulton County have been paid and satisfied in full as of _____, 200____, and that there are no outstanding obligations or claims of any kind for the payment of which Fulton County on the above-named project might be liable, or subject to, in any lawful proceeding at law or in equity.

Signature

Title

Personally appeared before me this _____ day of _____, 20____. _____, who under Oath deposes and says that he is _____ of the firm of _____, that he has read the above statement and that to the best of his knowledge and belief same is an exact true statement.

Notary Public

My Commission expires

END OF SECTION

SECTION 9
SPECIAL CONDITIONS

The following Special Conditions are part of the Phasing Plan to bidders. Please provide the necessary information as it applies to your specific areas for the subject project.

1. The contractor is fully aware that this work will be performed in an occupied building and Fulton County reserves the right to define excessive noise/dust produced.
2. Regular Library operation hours are:

Monday	10AM to 5 PM
Tuesday	10AM to 7 PM
Wednesday	12PM to 6 PM
Thursday	12PM to 6 PM
Friday	10AM to 6 PM
Saturday	1PM to 5 PM
Sunday	1PM to 5 PM.
3. The Contractor will have the shared use of a designated elevator for material deliveries. Modifications to the existing conditions by the contractor, necessary to accommodate delivery to the site, shall be restored at the Contractor's expense (i.e. protection of building and elevators).
4. The Contractor is specifically advised to insure that no interruption to the activities of the Library shall occur during the course of construction or as a result of the construction.
5. The Contractor, will need a location for field office and a material staging area within a secure storage area.
6. Successful Bidder Requirement - The successful bidder and their staff will be required to submit to Background Checks (at a cost of \$15/employee), submit a Criminal History Consent Form and a copy of a valid driver's license (PRIOR TO THE ISSUANCE OF A TEMPORARY Fulton County Identification Badge through the Sheriff's Department). Any personnel found without a proper Identification Badge displayed shall be escorted from and/or denied access to the facility.
7. The Contractor will have a restroom(s) (m/f) on the 9th Floor available for use by construction personnel. The Contractor shall be responsible for the daily cleaning of the restroom(s) and shall have a designated employee for cleaning each (m/f) bathroom at the end of each work shift.

8. The Contractor shall be responsible for obtaining Temporary Identification badges thru the Fulton County Police Department for all construction personnel. Any personnel found without a proper identification badge displayed shall be escorted from and/or denied access to the facility.
9. Material deliveries, crane, construction or hoisting activities will not be permitted on Margaret Mitchell Square.
10. The Contractor will not have parking spaces available at project on site.
11. The Contractor will be required to attend protocol meetings, independent from the mandatory pre-construction meeting.
12. The Contractor will be responsible for removing protecting and reinstalling the four (4) potted planters on the 5th fl. Patio.
13. During 5th Floor Patio Demolition; Contractor will have limited access to Employee Break Room and will be responsible for relocation and restoration of affected vending machines and lunch tables as necessary or required.
14. The Contractor will be responsible for removal, protection/storage and reinstallation of Artwork on 5th floor patio.
15. Any required asbestos removal throughout the building must be done when the building is vacant.
16. The location of a waste container, shall be coordinated with the Project Management. Contractor shall provide protection to the façade of the building for waste removal.
17. Existing Utility Interruptions: Do not interrupt utilities service facilities occupied by Fulton County Government or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - a) Notify Owner not less than five (5) days in advance of proposed utility interruption or shutdown.
 - b) Do not proceed with utility interruptions without Owners written permission.

END OF SECTION

SECTION 10

EXHIBITS



RAYMOND

E N G I N E E R I N G

1224 Royal Drive
Suite 100
Conyers, Georgia 30094
(770) 483-9592
FAX (770) 483-8082

**ROOF CORE and MATERIAL TESTING REPORT
ATLANTA FULTON COUNTY CENTRAL LIBRARY
ONE SQUARE MITCHELL SQUARE
ATLANTA, GEORGIA**



**Prepared For:
Studio ALA
335 Eureka Drive
Atlanta, Georgia 30305**

August 6, 2013

Joe Pepper, R.R.O

James Akers, E.I.T.



RAYMOND

E N G I N E E R I N G

August 23, 2013

Dear Mr. Hornbein,

On August 6, 2013, Joe Pepper, R.R.O. and James Akers E.I.T. of Raymond Engineering arrived at the Atlanta Fulton County Central Library to make roof core openings and take material samples of existing roof system components, sealant at a wall control joint, and gasket material at a window pane.

Attached are core details describing the location, material composition, and depth of each of the cores taken. Two roof cores were made in each of the 7th, 8th, and 9th floors roofs, and one was taken from the penthouse roof. On the 7th and 9th floor roofs the roof assembly consisted of a modified bitumen membrane cap sheet, roofing felt plies, fiberglass insulation, and tapered perlite insulation over a structural concrete deck. The 8th floor roof (Chiller Well) core consisted of a modified bitumen membrane cap sheet, roofing felt plies, fiberglass insulation, and tapered perlite insulation over a metal deck. The penthouse roof consisted of a modified bitumen membrane cap sheet, roofing felt plies, and tapered perlite insulation over a concrete deck. The composition of the materials in the cores were the same on the 7th, 8th and 9th floors. The depths of the cores indicate that the insulation is tapered to provide positive slope to drains. The insulation was wet at all core locations. Each core was repaired with polyisocyanurate insulation and a layer of roofing cement, mesh, and another layer of roofing cement.

A sample of the base flashing was taken at a location under the window on the 7th floor roof. Samples of the material in the wall control joint and the window pane were also taken from the 7th floor roof area. These locations as well as the locations of Core #'s 1 and 2 are noted on the attached Roof Plan A-1.3. The base flashing was repaired with a 3-course application of roofing cement and mesh. The voids at the control joint and window pane were sealed with waterproof silicone sealant. The locations of Core #'s 3, 4, and 7 are noted on the attached Roof Plan A-1.4. The locations of Core #'s 5 and 6 are noted on the attached Roof Plan A-1.2.

Also attached is the Asbestos Testing Results as well as a copy of the lab Asbestos Analysis Summary. The report does indicate that asbestos was detected in the base flashing sample.

Also attached are selective photos describing our activities and the composition of cores and samples taken.

We trust that this report will assist you and your staff in your evaluation of this property. If should have any questions regarding our report or would like to discuss our findings in further detail, please do not hesitate to contact us directly.

Respectively submitted,
RAYMOND ENGINEERING-GEORGIA, LLC

Joe Pepper

Joe Pepper, R.R.O.

James Akers

James Akers, E.I.T.

1329.001 Atlanta Fulton County Central Library



Core Details

Cores	Location	Composition	Depth
Core # 1	7th Floor Roof	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass insulation, and Tapered Perlite insulation –Concrete Deck	7"
Core # 2	7th Floor Roof	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass insulation, and Tapered Perlite insulation –Concrete Deck	4.5"
Core # 3	8th Floor Roof - Chiller Well	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass insulation, and Tapered Perlite insulation –Metal Deck	8.5"
Core # 4	8th Floor Roof - Chiller Well	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass insulation, and Tapered Perlite insulation – Metal Deck	5.5"
Core # 5	9th Floor Roof	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass insulation, and Tapered Perlite insulation – Concrete Deck	9.5"
Core # 6 (*shown as Core # 7 in Pictures)	9th Floor Roof	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass insulation, and Tapered Perlite insulation – Concrete Deck	7"
Core # 7 (*shown as Core # 8 in Pictures)	Penthouse Roof	Modified Bitumen Membrane Cap Sheet, Roofing Felts, and Tapered Perlite insulation - Concrete Deck	9.5"



Asbestos Testing Results

Asbestos Samples	Location	Composition	Results
Sample # 1	7th Floor Roof - Base Flashing Sample Under Window	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass Insulation	15% Chrysotile
Sample # 2	7th Floor Roof - Control Joint Sealant Sample	Sealant	ND
Sample # 3	9th Floor Ceiling	Fiberglass insulation	ND
Sample # 4	7th Floor - Window Gasket Sample	Rubber Gasket	ND
Sample # 5	9th Floor Roof Core # 5	Modified Bitumen Membrane Cap Sheet, Roofing Felts, Fiberglass insulation, and Perlite insulation	ND



PHOTO LOG



1: Core # 1 taken on the 7th floor roof area.

2: Core # 1 is composed of modified bitumen membrane cap sheet, roofing felts, approximately 1/2" of fiberglass insulation, and tapered perlite.



3: Core # 1 was approximately 7" deep.

4: Core # 1 was filled with polyisocyanurate insulation and sealed with a 3-course application of roofing cement and mesh.



PHOTO LOG



5: Core # 2 was taken on the 7th floor roof area.

6: Core # 2 had an overall depth of approximately 4.5" which indicates tapered insulation is utilized to create positive slope to drains.



7: The bottom of Core # 2 revealed a structural concrete deck.

8: Core # 2 was sealed in the same manner as Core # 1.



PHOTO LOG



9: A sample of the sealant at a control joint located near a window on the 7th floor roof was extracted for asbestos testing.

10: The open area where the sample was removed was sealed with waterproof silicone sealant.



11: A sample of the gasket material along the window on the 7th floor was removed for asbestos testing.

12: A sample of the base flashing below the window on the 7th floor was removed for asbestos testing.



PHOTO LOG



13: Core # 3 was taken on the 8th floor Chiller Well roof area and was composed of the same material observed at Core # 1.

14: Core # 3 was approximately 8 ½” deep.



15: Inside view of core # 3.

16: Core # 3 revealed that the 8th floor roof deck located near the chiller is composed of metal decking.



PHOTO LOG



17: Core # 4 was taken on the 8th floor Chiller well roof. The core was approximately 5 ½” deep which indicates tapered insulation is utilized to create positive slope to drains.

18: Core # 5 was taken on the 9th floor roof and was composed of the same material as previous cores.



19: Core # 5 was approximately 9 ½” deep.

20: A screwdriver was used to measure the depth of core # 5 (see photo # 19).



PHOTO LOG



21: Core # 5 was sealed in the same manner as the previous cores.

22: Core # 6 was taken on the 9th floor roof and was composed of the same material as the previous cores. (Shown as Core # 7 in photo.)



#23: Core # 6 was approximately 7" deep.

24: Core # 6 was sealed in the same manner as the previous cores.

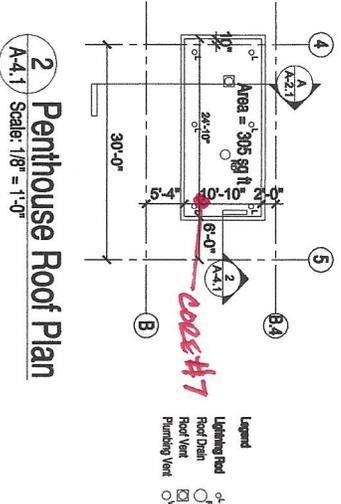
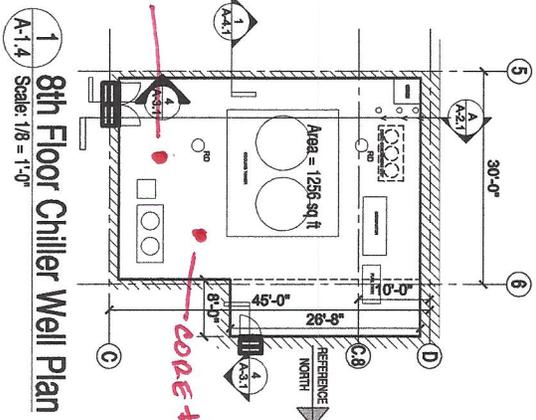


PHOTO LOG

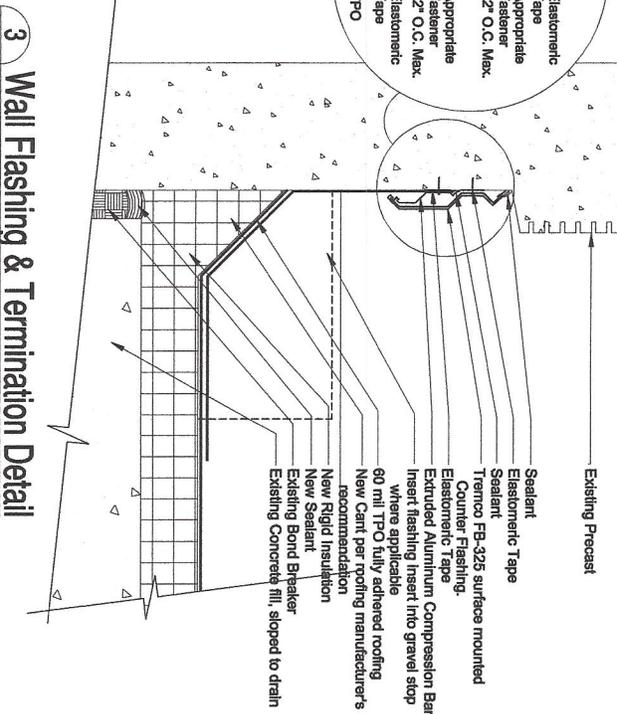


25: Core # 7 was taken from the 9th floor penthouse roof. The core was composed of a modified bitumen membrane cap sheet, roofing plies, and wood fiber insulation over a concrete deck.

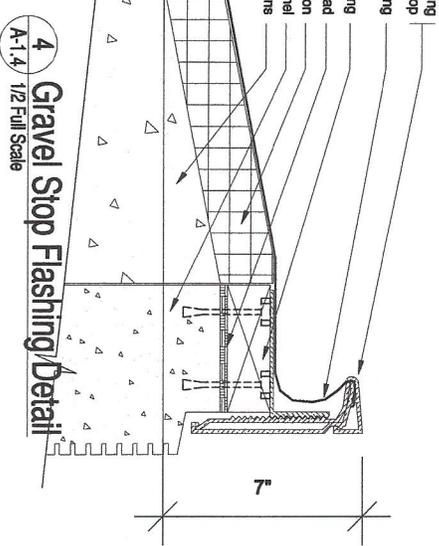
26: Core # 7 was approximately 9 1/2" deep.



- Legend**
- Lighting Bolt
 - Roof Drain
 - Roof Vent
 - Plumbing Vent



- Remove and replace pressure treated wood blocking
- Remove and replace 2" rigid insulation
- Existing precast concrete panel
- Existing concrete fill, sloped to drains



- Existing Precast
- Sealant
- Elastomeric Tape
- Tremco EB-325 surface mounted Sealant
- Counter Flashing
- Elastomeric Tape
- Extruded Aluminum Compression Bar
- Insert flashing insert into gravel stop where applicable
- 60 mil TPO fully adhered roofing
- New Cant per roofing manufacturer's recommendation
- New Rigid Insulation
- New Sealant
- Existing Bond Breaker
- Existing Concrete fill, sloped to drain

NOT FOR CONSTRUCTION

studio A
architects
3000 Wilshire Drive
Atlanta, Georgia 30305
404-477-2024

Atlanta Fulton County
Central Library
Roof Replacement - Phase I
One Margaret Mitchell Square
Atlanta, GA 30303

Project	
Requested by	KCI
Designed by	KCI
Checked by	KCI
Reviewed by	KCI
Date	8-27-13
Scale	As Indicated

Roof Plans
Details
A-1.4

BULK SAMPLE

CHAIN OF CUSTODY RECORD

1353 - 09-019

ENGINEERING, TESTING
ENVIRONMENTAL SERVICES

PERFORMED BY EPA 600/R-93/116 METHOD



POLARIZED LIGHT MICROSCOPY

PROJECT NO. 1329.001	PROJECT NAME Atlanta Fulton County Central Library	RELINQUISHED BY:	DATE TIME	RECEIVED BY:
FACILITY Atlanta Fulton County Central Library	RELINQUISHED BY:	DATE TIME	RECEIVED BY:	8/5/13
SAMPLER(S)	DATE TAKEN 8-6-13	RELINQUISHED BY:	DATE TIME	RECEIVED BY:

SAMPLE #	LAB NUMBER	DATE ANALYZED	ANALYSTS INITIALS	ASBESTOS +	ARCHIVE NUMBER	DATE ARCH	ARCHIVER INITIALS	SPECIAL INSTRUCTIONS
1- Base Flashing	13-7813							
2- Control St. Subst	14							
3- Firestacking	15							
4- Window gasket	16							
5- Roof Core #5	13-7817							
<input type="checkbox"/> Same Day <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 3-5 Day <input type="checkbox"/> 6-10 Day								
ALL SAMPLES WILL BE DISPOSED OF AFTER ANALYSIS UNLESS OTHERWISE REQUESTED								

By signing below, I warrant that I am authorized to enter into this agreement for the client named below, and that I authorize the above analysis subject to the terms and conditions on the reverse hereof.

AUTHORIZED BY: Joe Lopez RA Mgr. (NAME & TITLE)

PRINT NAME: JOE PEPPER

Client Name: Raymond Environmental ATTN: _____

Client POB: _____

Address: 1224 Royal Dove Suite 100

City, State, Zip: Conyers, GA 30094

Phone: 770-483-9592 FAX: 770-483-8082

WHITE COPY-LABORATORY

SEND COPIES OF RESULTS TO:

Name, Dept: JOE PEPPER, RA.

Co. Raymond Environmental

Address: 1224 Royal Dove Suite 100

City, State, Zip: Conyers, GA 30094

Phone: 770-483-9592 FAX: 770-483-8082

YELLOW COPY-ACCOUNTING

PINK COPY-CLIENT

Analysis charges shall be as included in SAME, Inc.'s fee schedule in effect at the time of the analysis. This agreement is governed by the terms and conditions on the reverse side hereof.



9711 Southern Pine Boulevard
 Charlotte, NC 28273
 704-940-1830 Fax 704-565-4929
 NVLAP Lab Code 102075-0

POLARIZED LIGHT MICROSCOPY
 Performed by EPA 600/R-92/116 Method

Asbestos Analysis Summary

Client Name Raymond Engineering
Client Job Alania Fulton Co Central Library 1329.001

1224 Royal Dr
 Conyers GA 30094

Date Received 8/8/2013
Date Analyzed 9/13/2013

Job Number 1355-09-019

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
13-7813	1	BLACK FIBROUS		15 CHRYSOTILE	20 GLASS	65 OTHER
13-7814	2	GREY RUBBERY		ND		100 OTHER
13-7815	3	TAN FIBROUS		ND	10 GLASS 5 CELLULOSE	20 VERMICULITE 65 OTHER
13-7816	4	BLACK RUBBERY		ND		100 OTHER

Analyzed by: Jane Wasilewski
Additional Comments:

Jane Wasilewski
 Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present in Representative Sample), RC= (Refractory Ceramic Fibre). The results relate only to the items tested. The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from S&ME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) Method EPA 600/R-92/116 is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

Job Number 1355-09-019

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
13-7817	5	BLACK FIBROUS		ND	20 GLASS 5 CELLULOSE	75 OTHER

Analyzed by: ~~Jane Wasilewski~~

~~Additional Comments:~~

~~Jane Wasilewski~~
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present in Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested. The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from S&ME, Inc. This report may not be used to claim product endorsement by NYLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM) Dispersion Staining (Method EPA 600/R-97/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

SECTION 11
APPENDICES

Appendix A

Job Safety Analysis Worksheet Example and Information

Job Safety Analysis/Job Pre-Planning Worksheet

Job Name and #:		Completed By:	
Date:		Phase/Operation:	
Task	Hazard	Control	

PRE-OPERATIONAL PLANNING
FACT FINDING GUIDE - GL

I. Evaluate present conditions at job site to determine items that could lead to liability claims during work and after completion of the project.

A. PRESENT OCCUPANCY OR USE OF THE SITE

- Demolition to be done?
- Structures will remain (condition)?

B. HISTORY OF THE SITE

- For what was the site used before?
- Underground tanks?
- Underground utilities?

C. GEOLOGY OF THE SITE

- Rock to be blasted?
- Water to be removed/diverted?
- Fill needed? (where and how obtained?)
- Excavation needed? (where and how disposed of?)

II. Evaluate controls needed in reference to site security and public protection.

A. FENCING NEEDED?

B. ACCESS/GATES

- Can traffic be routed past office or checkpoint?
- "Non-Vendor" visitors escorted?
- Gate lockable after hours?
- "Hard Hat" signs at entrance?
- Dirt removal/tarping area at exit?
- Ready Mix chute wash area?

C. PEDESTRIANS

- Sidewalk maintained outside fence?
- Covered sidewalk needed?
- Special access requirements for neighboring occupants?
- Special after-hours considerations?

D. ENVIRONMENTAL

- Dust control?
- Silt control?
- Mud control on streets?
- Vibration control?

E. UTILITIES

- Underground utilities located?
- Overhead power lines in work area relocated, removed, or deenergized?
- Temporary power service away from high traffic areas?

F. SUB-CONTRACTORS

- Method to secure proof of adequate insurance coverage in place?
- List of hazardous materials obtained?
- List of hazardous materials provided?
- Responsibilities established
 - Job site safety meetings
 - Materials delivery
 - Debris removal
 - Access to site
 - Weekly Sub-Contractors' meetings
 - Schedule of safety inspections
 - Emergency Procedures

G. MATERIALS HANDLING

- Crane selection criteria established
 - Maximum weight to be handled
 - Maximum lifting height
 - Maximum horizontal reach needed
 - Amount of travel needed
 - Swing radius available
 - Set-up area available
 - Ground bearing capacity
 - Approximate frequency of lifts
- Crane operations responsibilities established
 - Triangle or leasing company crane to be used?
 - Operator trained and experienced on specific machine?
 - Operator can accurately read and interpret machine load chart?
 - Critical lift identified (75% of net capacity)?
 - Machine fully inspected by a qualified outside agency?
 - Rigging hardware properly selected?
 - Inspecting and maintaining the crane per owner/manufacture specifications?

III. Start Up.

A. ELECTRICAL

- Temporary Power
 - Underground service possible?
 - Maintenance responsibilities established?
 - Main circuit panel barricaded?
 - Lighting planned?
- Circuit Protection

- Ground fault circuit interrupt protection?
- Assured grounding conductor program?
- Responsibilities established?

B. FIRE PROTECTION

- ABC extinguishers adequately distributed?
- Properly sized?
- Maintenance of fire extinguishers?
- Stand pipe/hydrant available? Adequate?
- Housekeeping checks/inspections?

C. FALL PROTECTION

- Critical Job Phases Identified?
 - Critical exposures identified by phase? (e.g. "Worker falls into basement excavation")
 - Scheduled start dates for critical phases?
- General Fall Protection Procedures
 - Perimeters
 - Floor openings
 - Working deck
 - Work area access
 - Ladders
 - Elevator hatchways

D. PERSONAL PROTECTIVE EQUIPMENT

- General
 - Hard hats
 - Work shoes
- Specific by Task

E. HAZARD COMMUNICATION PROGRAM ESTABLISHED AND EMPLOYEES TRAINED

F. CONFINED SPACE ENTRY

- Procedures established and task(s) identified requiring use of procedures?

G. TRENCHING

- Procedures established and task(s) requiring procedures identified?

H. PHASE PRE-PLANNING

- Job schedules established?
- Agreed upon target dates for meeting?
- Follow up system

END OF APPENDICES