

**RFP# 179-2324-725_Spauling_Auditorium
Auditorium Renovations
ADVERTISEMENT FOR BIDS
CC Spaulding Elementary School
Durham Public Schools / Durham County**

Sealed bids from licensed contractors will be received by Durham Public Schools, Durham, North Carolina on **Thursday, April 23rd, 2024**, for furnishing of labor, material, and equipment for **Auditorium Renovations at CC Spaulding Elementary School, 1531 South Roxboro Street, Durham, NC 27707**. Bids will be received up to **1:00 PM** from Single Prime bidders. **All bids will be publicly opened and read aloud at 2:00 PM**. Deliver or mail bids to **Durham Public Schools, 511 Cleveland Street, Durham, NC 27701**.

- No bid may be withdrawn after the scheduled closing time for the receipt of bids for a period of sixty (60) days.
- Bid security required is 5% of the bid in cash, certified check, or Bid Bond.
- Performance and Payment Bonds for 100% of the contract amount will be required.
- Durham Public Schools reserves the right to reject any and all bids and to waive informalities or irregularities.

Minority Business Participation: Bidders shall note that compliance with County of Durham MBE policies and the North Carolina Statute 143-128.2 (c) are required for this project.

Project scope Base Bid: Includes but not limited to expansions of existing stage area.

Pre-Bid Conference: Scheduled for **Monday, March 18th, 2024 at 2:00 PM at CC Spaulding Elementary School, 1531 South Roxboro Street, Durham, NC 27707**. The project Designer or Designer's representative will be available to answer questions.

All Bidders who intend to bid are encouraged to attend the pre-bid conference. **Questions are due by April 2nd, 2024 via email to Dist.Purchasing <Dist.Purchasing@dpsnc.net> with a subject line of "CC Spaulding Auditorium Renovations"**. **Responses to questions provided by April 4th, 2024**.

Statement of Qualifications: Each proposal shall be accompanied by a statement of qualifications that demonstrates experience in at least five (5) projects of similar scope within the past three (3) years with references.

Complete plans and specifications for the project can be obtained on the Durham Public Schools website.

For questions regarding this bid, please contact:

Bute, PLLC
PO BOX 2833
Durham, NC 27715
919.491.9105

Durham Public Schools Project Manager:

Melanie Gartrell
2011 Hamlin Road
Durham, NC 27704
919.309.5982
Melanie_gartrell@dpsnc.net

Thank you for your consideration.

Signed: Fredrick Davis, II
Executive Director- Building Services Construction & Capital Planning
Durham Public Schools, Durham, North Carolina

PROJECT MANUAL

FOR

Auditorium Renovations CC Spaulding Elementary

Vol. 1

PREPARED BY:
ButePLLC



3.7.24

Project Representatives

Contractor:
Project Manager:
Superintendent:
Office Phone:
Emergency Phone:
Fax:

Owners Representative: **Melanie Gartrell**
Durham Public Schools
2011 Hamlin Rd
Durham, NC 27704

Architect: **Bute, PLLC**
P.O. Box 2833
Durham, NC 27715
919.491.9105

Seals:



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Durham Public Schools
1531 S. Roxboro St.
Durham NC

DPS #: 1792324725

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INFORMATION AVAILABLE TO BIDDERS
Durham Public Schools

A-1. SUBMISSION OF BIDS AND BID OPENING:

- A. Bids will be received by Durham Public Schools (DPS) and will be opened and read at the times and places set forth in the Advertisement for Bids. Bidders, or their representative, and other interested persons may be present at the opening of proposals.
- B. The envelopes containing the bids must be sealed and addressed to Durham Public Schools, 511 Cleveland St., Durham, North Carolina, 27704 and marked on the outside of the envelope "Proposal for **Auditorium Renovations CC Spaulding Elementary**" with the name of the Bidder and his North Carolina State Contractor's License Number.
- C. The Bidder shall assume full responsibility for timely delivery at the exact location designated for receipt of Bids.
- D. In accordance with the Advertisement for Bids, bids will be received for a Single Prime Construction Contract.

A-2. BID DOCUMENTS:

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

A-3. DEFINITIONS:

A. THE BID:

A Bid is a complete and properly signed proposal to do the work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents and North Carolina law.

B. BASE BID:

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

C. ALTERNATES:

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

A-4. QUALIFICATION OF BIDDER:

- A. If requested by the Owner prior to the signing of the contract, the successful Bidder shall submit a statement of work to be performed by his own forces.
- B. Prior to Contract award or within seven days of the Owner's request to do so, the successful Bidder shall be prepared to demonstrate that his present organization, direct labor force and prior work experience is of adequate size and development to maintain responsible control of the project and to schedule, coordinate and perform the work in an expeditious manner and in accordance with the Contract Documents.
- C. At the request of the Owner, the Bidders, whether residents or nonresidents in North Carolina must be able to show documented evidence of the following:
 - 1. A contractor's license in good standing with the North Carolina General Contractor's Licensure Board (or NC State Board of Examiners for Plumbing, Mechanical, Electrical, and / or Fire Protection only projects) with the appropriate level of limitations and classifications.
 - 2. A current registration in good standing with the North Carolina Secretary of State's to allow the Bidder do business in the State of North Carolina.
- D. The Owner will consider, in determining the qualifications of a Bidder, thier record in the performance of any contracts for construction work into which they may have entered with the Owner or with similar public or private bodies or corporations. The Owner expressly reserves the right to reject the bid of any Bidder if such record discloses that such Bidder, in the opinion of the Owner, has not properly performed such contracts or has habitually and without just cause neglected the payment of bills, or has otherwise disregarded his obligations, Subcontractors, material men, suppliers or employees.
- E. The Owner may make such investigation as they deem necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner

all such information and data for this purpose as they may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of such Bidder, fails to satisfy the Owner that such Bidder is a responsive and responsible Bidder in accordance with N.C. Gen. Stat. 143-128 and 143-129, and the criteria set forth herein. Conditional bids will not be accepted.

A-5. BIDDER'S REPRESENTATIONS:

By submitting his bid, each Bidder represents that:

- A. The Bidder has read and understands the Bid Documents and their Bid is made in accordance therewith; and Bidder agrees to be bound by the terms and requirements set forth in the Bid and Contract Documents.
- B. The Bidder has visited the site, has familiarized themselves with the local conditions under which the Work is to be performed in accordance with Article A-10 herein, and has correlated its observations with the requirements of the proposed Contract Documents.
- C. Prior to the submission of the bid, the Bidder has made known to the Owner any significant discrepancies discovered during the preparation of its bid. These are items that could result in a significant change in time or money.
- D. The submitted bid is based upon the materials, systems and equipment required by the Bidding Documents without exception.
- E. The Bidder has the capability, in all respects, and the moral and business integrity, reliability, technical ability, financial resources, plant, management, superintendence, equipment and materials which will assure effective and efficient good faith performance in full compliance with the Contract Documents and with any and all schedules and Milestone and Completion dates required by the Owner. The Bidder acknowledges and represents that he has made allowances for normal inclement weather as outlined in the Contract Documents, in his estimating, planning and scheduling of the Work. The Bidder hereby certifies that the work shall be completed, in place, in full accordance with the Contract Documents, within the time limits specified.
- F. The Bidder agrees that upon receipt of the Notice of Award, he will execute the formal Contract, and will deliver all bonds and proof of insurance coverage as required by the Specifications.
- G. The Bidder agrees to execute the formal Contract within ten (10) days from the date of Notice of Award, and in case he fails or neglects to appear within the specified time to execute the Contract, he will be considered as having abandoned the Contract, and the Bid Security accompanying this Proposal will be forfeited to the Owner by reason of such failure on the part of the Bidder.
- H. He has made a good faith effort to solicit Minority Business Enterprises (MBEs) per N.C. Gen. Stat. 143-128.2, as subcontractors. The Bidders shall provide the Owner a notarized affidavit with its bid stating that it made the good faith effort required pursuant to G.S. 143-128.2. The Bidder's failure to file the affidavit with its bid shall be grounds for rejection of the Bid.

A-6. BID SECURITY:

- A. Each bid must be accompanied by (1) cash; or (2) a Cashier's Check or a Certified Check of the Bidder in an amount not less than 5% of the bid, made payable to the Owner; or (3) a bidder's bond on the Bid Bond Form provided herein or on a similar form which in every respect materially complies with said Bid Bond, in the amount of 5% of his bid. For purposes of this provision, the amount of the bid shall be the Base Bid plus all positive amount alternates. The Bidder's bond shall be issued by a surety company licensed to conduct business in the state of North Carolina and acceptable to the Owner.
- B. Said bid security is given as a guarantee that the Bidder will enter into a contract if awarded the work and, in the case of refusal or failure to so enter into said contract, the security shall be declared forfeited to the Owner. Such security shall be returned to all but the three lowest Bidders within three days after the opening of bids and the remaining security will be returned within 48 hours after the Owner and the successful Bidder have executed the Contract. If no Contract has been awarded or the bidder has not been notified of the acceptance of his bid within sixty (60) days of the bid opening, the Bidder may withdraw his bid and request the return of his bid security. If, at the Owner's request, the Bidder agrees to extend and maintain his bid beyond the specified 60 days, his bid security will not be returned until the expiration of the period of extension.

A-7. FORFEITURE OF BID BOND:

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

A-8. EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this contract, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, handicap, age, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to race, handicap, age, color, religion, sex or national origin. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruiting advertising, layoff or termination rates of pay or other forms of compensation, and selection for training including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices setting forth the provisions of the nondiscrimination clause.
- B. The contractor will in all solicitations or advertisements for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for employment without regard to race, handicap, age, color, religion, sex, or national origin.

- C. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided advising the labor union or workers' representative of the contractor's commitments under the Equal Employment Opportunity section of this contract and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- D. In the event of the contractor's noncompliance with nondiscrimination clauses of this contract or with any such rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further County contracts.
- E. The contractor will include the provisions of this section in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Board of County Commissioners of the County of Durham, North Carolina so that such provisions will be binding such subcontractor or vendor.

A-9. MINORITY and WOMEN BUSINESS ENTERPRISES:

- A. Bidders are required to submit information about participating M/WBEs with their bid. Each bidder shall identify on its bid the minority businesses that it will use on the project and an affidavit listing the good faith efforts it has made pursuant to N.C. Gen. Stat. § 143-128.2(f). The information must include the name and address of each M/WBE, a description of the work to be performed by each, and the dollar value of the work to be performed by each. Any bidder who does not achieve the indicated M/WBE participation goal stated above is required to provide the aforementioned documentation demonstrating that good faith efforts were made in an attempt to meet the established goal. AFFIDAVITS A through D and APPENDIX E, are provided to record this information and must be completed and enclosed with your bid. Any bid which does not include M/WBE information and documentation may be considered non-responsive. The County's Minority and Women Business Enterprise Ordinance may be obtained from the Duham County website at <http://www.dconc.gov> or by contacting the Durham County Purchasing Division.
- B. The apparent lowest responsible, responsive bidder, within three (3) business days, shall also provide either (1) an affidavit (Affidavit C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the applicable goal or (2) documentation of its good faith effort that was identified in the bid to meet the goal (Affidavit D), including any advertisements, solicitations, and evidence of other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract. **Failure to file the required affidavit or supporting documentation that demonstrates that the contractor made the required good faith effort is grounds for rejection of the bid.**
- C. M/WBE: A business which is at least 51% owned and controlled by minority group members or a woman. A M/WBE is bona fide only if the minority group or female ownership interests are real and continuing and not created solely to meet the M/WBE requirement. In addition, the M/WBE must itself perform satisfactory work or service or provide supplies under the contract and not act as a conduit. The contractual relationship must be bona fide.

- D. Owned and controlled: (1) A sole proprietorship legitimately owned by an individual who is a minority group member or female; (2) a partnership or joint venture controlled by minorities and/or females; (3) a corporation or other entities controlled by minorities or females, and in which at least 51% of the voting interests and 51% of the beneficial ownership interests are legitimately held by minorities and/or females. These persons must control the management and operations of the business on a day-to-day basis.
- E. A person who is a citizen or lawful permanent resident of the United States and who is:
- a. "Black American"; a person having origins in any of the Black racial groups of Africa;
 - b. "Hispanic American"; a person of Spanish culture with origins in Mexico, Central or South America, or the Caribbean, regardless of race;
 - c. "Native American"; a person who is a member or is eligible to be a member of a federally recognized Indian tribe. A federally recognized Indian tribe means an Indian tribe, or band, nation, rancharo, pueblo, colony, or other organized group or community, including any Alaska native village, which is recognized by the Secretary of the Interior on October 1, 1985 as having special rights and is recognized as eligible for service provided by the United States to Indians because of their status as Indians, and any tribe that has a pending application for federal recognition on October 1, 1985, as having special rights and is recognized as eligible for services provided by the United States to Indians because of their status as Indians, and any tribe that has a pending application for Federal recognition on October 1, 1985.
- F. During the construction of a project, if it becomes necessary to replace an M/WBE subcontractor, the prime contractor shall advise the owner. No M/WBE subcontractor may be replaced with a different subcontractor except (1) if the subcontractor's bid is later determined by the contractor to be nonresponsive or nonresponsive, or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work or (2) with the approval of the Board for good cause.
- Good faith efforts as set forth in N.C. Gen. State. § 143-131(b) shall apply to the selection of a substitute subcontractor. Prior to substituting a subcontractor, the contractor shall identify the substitute subcontractor and inform the Board or its designee of its good faith efforts pursuant to N.C. Gen. State. § 143-131(b).
- G. If during the construction of a project additional subcontracting opportunities become available, the prime contractor shall make a good faith effort to solicit subbids from M/WBEs.
- H. Durham Public Schools periodically conducts Construction Information Meetings to engage the business community about current and future project opportunities. Table 1 attached to this Section 00200 includes the list of participants of the most recent Construction Information Meeting. Many of these firms are M/WBE qualified and should be considered as viable participants in the bidding process. Durham Public Schools provides this list as information without endorsing the qualifications or capabilities of these firms or individuals. Bidders are encouraged to contact these

firms and individuals. Bidders are expected to independently evaluate applicability of M/WBE qualifications to the Work described herein and are encouraged to also utilize other reputable resources for M/WBE identification.

A-10. SITE CONDITIONS AND CONDITIONS OF THE WORK:

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

A-11. BIDDER'S QUESTIONS, ADDENDA AND INTERPRETATIONS:

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

A-12. SECURITY FOR FAITHFUL PERFORMANCE:

All bidders shall include in their bid the costs of a Performance Bond and a Labor and Material Payment Bond. The cost of bonds covering the base bid work is to be carried in the base bid only. The cost of bonds covering any alternate scopes of work is to be included within each individual alternate bid. The successful bidder shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the Contract Sum as security for the faithful performance of this Contract and also a Labor and Material Payment Bond in an amount not less than one hundred percent (100%) of the Contract Sum, as security for the payment of all persons performing labor and furnishing materials under this Contract. The successful bidder shall provide a Performance Bond and a Labor and Material Payment Bond using the forms attached as Exhibits A and B. The Performance Bond and the Labor and Material Payment Bond shall be delivered to the Owner not later than the date of execution of the Contract.

A-13. TIME FOR COMPLETION AND LIQUIDATED DAMAGES FOR NON-COMPLETION:

The Substantial Completion date will be September 16, 2022, and Final Completion to be October 14, 2022. In the event of delay in Substantial or Final completion, the Contractor shall pay liquidated damages to DPS in the amount of Two Hundred Fifty (\$250.00) per day.

A-14. LOCATION OF WORK:

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

A-15. LIABILITY INSURANCE AND WORKMEN'S COMPENSATION:

The Successful Bidder will be required to carry public liability and workmen's compensation and other insurance in the amounts and under the terms stipulated under the General Conditions.

A-16. BIDDERS REFERRED TO LAWS:

- A. The attention of Bidders is called to the provisions of all Municipal, County and State laws, regulations, ordinances and resolutions, as well as laws, regulations, ordinance resolutions and permits relating to obstructing streets, maintaining signals, storing and handling of explosives, or affecting the Bidder, or his employees or his work hereunder in his relation to the Owner or any other person. The Bidder shall obey all such laws, regulations, ordinances, permits or resolutions controlling or limiting Contractors while engaged in the prosecution of work under this Contract.
- B. The provisions of this contract shall be interpreted in accordance with the laws of North Carolina and in accordance with the laws, ordinances, regulations, permits and resolutions of Durham County.

A-17. TAXES

All applicable Federal, State and Local Taxes shall be included in the Bidder's proposal. The successful bidder shall provide the Owner with monthly documentation of North Carolina sales taxes paid for all purchases on the project in a form acceptable to the Owner.

DPS has determined this project to be a Capital Improvement as defined by the NC General Statute § 105-164.

A-18. RIGHT TO REJECT BIDS:

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

A-19. EQUAL PRODUCTS AND SUBSTITUTIONS:

- A. Whenever possible, the Design Consultant shall specify in the plans the required performance and design characteristics for materials as required by N.C. Gen. Stat. § 133-3. When it is impossible or impractical to specify the required performance and design characteristics for materials, the Design Consultant may use a certain brand, make, manufacturer, article, device, product, material, fixture, form or type construction by name, make or catalog number to convey the general style, type, character and standard of quality of the article desired. Unless specifically stated to the contrary, all materials, supplies and articles furnished under this Contract shall, whenever specified and otherwise practicable, be the standard products of recognized, reputable manufacturers. Unless otherwise specifically provided in the Contract Documents, the naming of a certain brand, make, manufacturer or article, device, product, material, fixture or type of construction shall convey the general style, type, character and standard of quality of the article desired and shall not be construed as limiting competition. If approval by the Design Consultant prior to bid opening is desired, the bidder shall request approval in writing at least ten (10) days prior to the bid date. The Design Consultant's approval will be in the form of an Addendum to the Specifications issued to all prospective Bidders indicating that the additional makes or brands are equivalent to those specified. Nothing in this paragraph is intended to restrict or inhibit free and open competition on school system projects.
- B. The bidder may request approval for substitutions of materials or type of construction in writing up to ten (10) days prior to the bid date. The standard for acceptance of substitutions shall be as expressed in Paragraph 4.15 of the contract General Conditions.

A-20. PREPARATION AND SUBMITTAL OF FORM OF BID:

- A. Bids shall be submitted utilizing the Form of Proposal as bound herein, or otherwise provided with the Contract Documents, and shall be complete in every respect. The total bid amount shall be entered in words and figures in the space provided. Where applicable, the unit price or lump sum items, and their extensions, shall be entered in figures in the respective columns provided for each bid item. All entries shall be typewritten or printed in ink. The signatures of all persons shall be in longhand. Any entry of amount that appears on the face of the bid to have involved an erasure, deletion, white-out and/or substitution or other such change or alteration, shall show by them the initials of the person signing the bid and the date of the change or alteration. A failure to comply with this requirement may be cause for disqualification of the bid.

- B. For Unit Price bids, in the event of any discrepancies between the unit prices and the extensions thereof or the total bid amount, the unit prices shall govern. For Lump Sum bids, in the event of a discrepancy between the bid amount in writing and that in figures, the written value shall govern.
- C. Bids shall not contain any restatement or qualifications of work to be done, and alternate bids will not be considered unless called for. No oral bids or modifications will be considered.
- D. The amount of a bid submitted by a subcontractor to the general contractor under the single prime contracting system shall not exceed the bid, if any, for the same work by that subcontractor to the Owner under the multiple prime system.
- E. Each single-prime bid shall identify the contractors selected to perform the HVAC, plumbing and electrical work and the subcontractors' respective bid prices for the work.

A-21. MODIFICATION OR WITHDRAWAL OF BID:

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

A-22. DETAILED BID BREAKDOWN:

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

A-23. AWARD OF CONTRACT:

- A. The contract will be awarded to the lowest responsive and responsible bidder under the single prime system, taking into consideration quality, performance, and the time specified in the bids for the performance of the contract.
- B. The lowest bidder shall be determined by the aggregate amount of the unit prices set forth in the form of bid, if work is bid on a unit price basis, or the aggregate

amount of the Base Bid, plus any Alternates selected by the Owner. Single prime bids will be received and awarded according to state law.

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

11. Such other information as may be secured by the Owner having a bearing on the decision to award the contract, to include, but not limited to:
 - a. the ability, experience and commitment of the Bidder to properly and reasonably plan, schedule, coordinate and execute the Work,
 - b. whether the Bidder has ever been debarred from bidding or found ineligible for bidding on any other projects.

- F. The purpose of the above is to enable the Owner in its opinion, to select the lowest responsible bidder. The ability of the low Bidder to provide the required bonds will not of itself demonstrate responsibility of the Bidder.

- G. In addition to the qualifications package submitted with the bid, the Owner reserves the right to require from the Bidder: (1) submissions of additional references, within seven days of bid opening, to include a listing of previous and current projects and (2) financial statements indicating current financial status, prepared in accordance with generally accepted accounting principles, by a CPA licensed to do business in North Carolina, and (3) any other information deemed necessary in order to establish the responsiveness and responsibility of the bidder.

- H. The Owner reserves the right to defer award of this contract for a period of Sixty (60) days after the due date of bids. During this period time, the Bidder shall guarantee the prices quoted in his bid.

A-24. ADDITIONAL REQUIREMENTS:

- A. All bidders must complete the Vendor Application/Bidder Profile Form and include it with their bid package. This information will be used to create or update Durham County's electronic Bidder/Vendor files.

- B. Security of Non-public Records: Pursuant to N.C.G.S. § 132-1.7, entitled, "Sensitive Public Security Information", public records, as defined in G.S. 132-1, shall not include information containing specific details of public security plans and arrangements or the detailed plans and drawings of public buildings and infrastructure facilities. Therefore, all information provided, received, gathered or obtained by Bidder containing specific details of public security plans and arrangements or the detailed plans and drawings of public buildings and infrastructure facilities shall be held confidential and shall be used by the Bidder only for the purpose of responding to this bid. All plans and drawings shall be returned to the Owner no later than the bid closing date. Any breach of this paragraph by the Bidder may result in Bidder being barred from being awarded any contracts with the Owner.

- C. To ensure a fair bidding process, questions and/or clarifications requested by contractors will be accepted up to five **(5) days prior to Bid Opening**. Bidders/contractors are required to submit their questions in writing to the Program Manager, **Melanie Gartrell, or the Architect Lindsey Bute**

- D. The following forms must be returned:
 - a. Bid Forms
 - b. Non-Collusion Affidavit

- c. Bid Bond
 - d. Power of Attorney
 - e. Vendor Application and W-9 Form
 - f. M/WBE Forms:
 - i. Identification of Minority Business Participation with contract amounts (\$),
- **AND** -
 - ii. Affidavit A – Listing of Good Faith Efforts - **OR** -
 - iii. Affidavit B – Intent to Perform Contract with Own Workforce
 - g. Statement of Qualifications
- E. Following the bid opening, the Owner will issue a Determination of Apparent Low letter to the contractor it has deemed to be the apparent low responsible, responsive bidder based on the initial bid documentation. The contractor is required to submit Affidavit C or D including all statute-required back-up information within seventy-two (72) hours of the receipt of the letter.
- F. Within 14 calendar days of the contract award, the contractor shall submit a complete list of all identified subcontractors the contractor will use on the project.
- G. **ASBESTOS-CONTAINING BUILDING MATERIALS IN SCHOOL FACILITIES:** Asbestos-containing building materials must not be disturbed if encountered during repairs, renovations, and other construction and installation activities. If disturbance of these materials cannot be reasonably avoided, no work shall begin until Durham Public School System has been notified and has issued specific instructions on the proper procedures for the activity in accordance with federal, state and local regulation. If Asbestos is identified DPS shall perform asbestos and lead based paint surveys of the affected areas of the facility.
- H.

RELATED SECTIONS:

- A. Exhibit A – Performance Bond Form (Section 00 61 13)
- B. Exhibit B – Material and Labor Payment Bond Form (Section 00 61 13)

END OF INFORMATION FOR BIDDERS

BID FORM Section 00 41 13.02

Contractor Initials & Date _____

Contract: **GENERAL CONSTRUCTION**

Project: **Auditorium Renovations CC Spaulding Elementary**
Durham Public Schools Board of Education
Durham County, NC

Bidder: _____

Date: _____

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; 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 the contract documents relative thereto, has read all special and supplemental provisions furnished prior to the opening of bids, has satisfied himself relative to the work to be performed, and thereby proposes and agrees if this proposal is accepted, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the fabrication and delivery of the work, and other related work in full and complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the Owner, with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and other contract documents, on the **Auditorium Renovations CC Spaulding Elementary at 1531 S. Roxboro St. Durham, NC**

Bidders are advised that a notice to proceed may be issued upon approval by the Durham Public Schools Board of Education, and in advance of the contract document.

The Bidder proposes and agrees, if this proposal is accepted, to execute a Contract within ten (10) days after notification of award, for the above work and for the below stated Compensation, in the form of Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum., for the sum of:

BASE BID: _____

_____ Dollars (\$ _____)

Mechanical Subcontractor:

_____ Sub Bid Amount (\$ _____)

Electrical Subcontractor:

_____ Sub Bid Amount (\$ _____)

Plumbing Subcontractor:

_____ Sub Bid Amount (\$ _____)

ALTERNATES:

The Bidder proposes to perform the work indicated as alternates for the amounts entered below, which amounts shall be added to or deducted from the Base Bid as indicated in the space below.
(Bidders must enter an amount for each alternate. If acceptance of the alternate will not change the contract amount, enter "No Change". Insert the words "Add" or "Deduct" in the space provided before the amount.)

List of Alternates: Add/Deduct Amount

ALTERNATE NO. 1: Add to include installation of vertical wheelchair lift as indicated on drawings and specified here See Section 144216.

Adjust Base Bid by ADDING

_____ Dollars (\$))

ALTERNATE NO. 2: Add/Deduct to change to Un-upholstered Fixed Seating as indicated on drawings and specified herein. See Section 125229.

Adjust Base Bid by ADDING/DEDUCT

_____ Dollars (\$))

ALTERNATE NO. 3: Add/Deduct to change change the floor finish under new seating from painted concrete to polished concrete as indicated on drawings and specified. See Section 033500

Adjust Base Bid by ADDING/DEDUCT

_____ Dollars (\$))

BID UNIT PRICES:

UNIT PRICES TO BE SUBMITTED, ALONG WITH BID, ON FORM PROVIDED IN 012200

ADDENDA:

The following addenda were received and used in computing this bid:

	Date	Initial
Addendum #1	_____	_____
Addendum #2	_____	_____
Addendum #3	_____	_____
Addendum #4	_____	_____

The Bidder further proposes and agrees hereby to commence work under this contract on a date to be specified in a written order by the Owner or Designer on or before July 1st 2024, and shall substantially complete the work on or before 240 Calendar days from the "Notice to Proceed" or the contract, whichever is dated first. The Contract is divided into 2 Phases. Phase 1 to be 90 calendar days and to include submittals, ordering and delivery of materials. Phase 2 to include all on site construction.

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bond within ten (10) consecutive calendar days after written notice being given of the award of the contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the Owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned. Attach certified check, cash or bid bond to this proposal.

BID FORM Section 00 41 13.02

Contractor Initials & Date _____

RESPECTFULLY SUBMITTED this _____ day of _____, 200_____

(Name of firm or corporation making bid) _____

By: _____

Title: _____
(Owner / Partner / President / Vice President)

License No. _____

Federal ID No. _____

WITNESS: (Proprietorship / Partnership)

By: _____

ATTEST: (Corporation)

By: _____

(CORPORATE SEAL)

Title: _____
(Corporate Secretary or Asst. Secretary Only)

BID BOND FORM Section 00 43 13

KNOW ALL MEN BY THESE PRESENTS, That we,

(Bidder's Name)
_____, of _____
(Street Address) (City, State, Zip)

Hereinafter called the Principal, and

(Surety's Name)

A corporation organized and existing under the Laws of the State of _____, and authorized to transact business in the State of _____, as Surety, hereinafter called Surety, are held and firmly bound unto the _____ (Owner).

Hereinafter called Obligee, in the Penal sum of five percent (5%) of the amount bid, good and lawful money of the United States of America, for the payment of which the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

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

of _____
(Contract Name and Number)

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

BID BOND FORM Section 00 43 13

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

Principal (Seal)

By
Surety

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

STATE OF _____)

ss:

COUNTY OF _____)

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

Given under my hand seal this _____ day of _____, 19____.

Notary Public (Seal)

My Commission expires:

BID PACKET REQUIREMENTS

Bid envelopes will have the following information on the outside of the envelope:

Bidder's name
Bidder's NC License Number
Bidder's Address

Proposal for Construction Contract for
Auditorium Renovations CC Spaulding
DPS Project #: 179-2324-725

Addressed to: Durham Public Schools
ATTN: Purchasing Verify
511 Cleveland St.
Durham, NC 27702

The following completed documents will be required in your base bid package:

1. Form of Proposal – Single Prime Contract
 - a. NOTE: Part 5, Addenda Acknowledgment **must** be filled out with the correct number of Addenda's Issued before bid date.
2. Non-Collusion Affidavit
3. Bid Bond
4. Bid Bond Power of Attorney
5. Vendor Application and W-9 Form
6. M/WBE Forms
 - a. Identification of Minority Business Participation – **AND** –
 - b. Affidavit A – Listing of Good Faith Efforts – **OR** –
 - c. Affidavit B – Intent to Perform Contract with Own Workforce
7. Statement of Qualifications

The omission of any of the above forms will constitute the bid as invalid and the contractors bid amount will not be read.

Tax Clarification, Reference "Information For Bidders" Section A-17, "All applicable Federal, State and Local Taxes shall be included in the Bidder's proposal".

Affidavit C or D will be submitted only by the apparent lowest responsible, responsive bidder within seventy-two (72) hours after the bid closing date.

AFFIDAVIT OF E-VERIFICATON

The undersigned hereby certifies on behalf of _____
("Bidder") that Bidder and its proposed Subcontractors for this project are in compliance with
Article 2 of Chapter 64 of the North Carolina General Statutes, except for those with less than
twenty five (25) employees that are exempt from the E-Verification requirements.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____
Subscribed and sworn to before me this _____ day of _____ 20____
Notary Public _____
My commission expires _____

NON-COLLUSION AFFIDAVIT

State of North Carolina
County of Durham

I _____, being first duly sworn, deposes and says that:

1. He/She is the _____ of _____, the offeror that has submitted the attached proposal;
2. He / She is fully informed respecting the preparation and contents of the attached proposal and of all pertinent circumstances respecting such proposal;
3. Such proposal is genuine and is not a **collusive** or **sham** proposal;
4. Neither the said offeror nor any of its officers, partners, owners agents, representatives, employees or parties of interest, including this affidavit, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other offeror, firm or person to submit a **collusive** or **sham** proposal in connection with the contract for which the attached proposal has been submitted or to refrain from proposing in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other offeror, firm or person to fix the price or prices in the attached proposal or of any other offeror, or to fix any overhead, profit or cost element of the proposal price of any other offeror or to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the County of Durham or any person interested in the proposed contract; and
5. The price or prices quoted in the attached proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the offeror or any of its agents, representatives, owners, employees, or parties in interest, including this affidavit.

Signature of offeror

Date

Subscribed and sworn before me,
this _____ day of _____, 20 _____

(SEAL)

TITLE

Notary Public
My Commission Expires _____

**DURHAM PUBLIC SCHOOLS BOARD OF EDUCATION
POLICY NUMBER 6070:**

Minority Business Enterprise Participation in Construction and Purchase Contracts

It is the policy of the Board to provide minorities equal opportunity to participate in all aspects of the school system's contracting and purchasing programs, including but not limited to participation in procurement contracts for materials, supplies and equipment, and contracts for the construction, renovation or repair of school facilities and equipment.

It is further the policy of the Board to prohibit discrimination against any person or business enterprise on the basis of race, color, ethnic origin, sex, handicapping condition, or religion and to conduct its contracting and purchasing programs so as to prevent such discrimination.

It is the policy of the Board in concert with other local, state and federal agencies and with the assistance of minority groups and agencies, actively to seek and identify qualified minority business enterprises (MBEs) and to offer them the opportunity to participate, and to encourage them to participate, in the school system's contracting and purchasing programs. Under this policy, the Board adopts the definition of MBEs contained in N.C. Gen. Stat. 143-128.2.

It is not the policy of this Board to provide information or other opportunities to minority business enterprises that will not be available to all other business enterprises. It is the intent of this policy to establish procedures designed to assure MBEs access to information and opportunities available to other business enterprises. It is not the intent of this policy to establish procedures that will increase the cost of the school system's construction and purchasing programs. It is the intent of this policy to widen opportunities for participation, to increase competition, and to reduce costs.

The Board will award public building contracts without regard to race, religion, color, creed, national origin, sex, age, or handicapping condition, as defined in N.C. Gen. Stat. 168A-3. The Board will award contracts to the lowest responsible, responsive bid.

Durham Public Schools is following Chapter 8 Article V of the Durham County Code of Ordinances for M/WBE Participation.

These projects shall be bid strictly in accordance with N.C. Gen. Stat. § 143-128 and -129. The school system shall require bidders on school construction and renovation projects to provide documentation demonstrating that they have met the verifiable goal for participation by minority business or that they have made good faith efforts to do so as specified in the accompanying regulations and in N.C. Gen. Stat. § 143-128.2. Data generated pursuant to this section shall be reported to the Department of Administration, Office of Historically Underutilized Business, as required by N.C. Gen. Stat. § 143-128.3(a).

ARTICLE V. - MINORITY AND WOMEN BUSINESS ENTERPRISES (as of February 18, 2020)

Sec. 8-131. - Purpose.

- (a) The county has commissioned a disparity study, which determined that there is a strong basis in evidence to conclude that minority and women-owned firms continue to suffer from both discrimination and the present effects of past discrimination in the Durham marketplace, which have a direct affect on the procurement processes of the County of Durham. The study findings conclude that the county should utilize race-neutral remedies to address the identified discriminatory barriers faced by minority and women-owned businesses and further concludes that, where appropriate, the county should take action to ensure that minority and women-owned firms are not discriminated against.
- (b) This article establishes a plan of action to help ensure that the county's purchasing practices provide for participation by, and equal opportunities for businesses owned and controlled by minorities and women.
- (c) This article is enacted pursuant to authority provided by law, including G.S. 143-128, 153A-12, 153A-13, 153A-121, and 153A-134.

(Ord. of 1-14-08(1), § 1)

Sec. 8-132. - Policy statement.

It is the policy of the county to provide minorities and women equal opportunity to participate in all aspects of the county's contracting programs, including, but not limited to, construction projects, and/or materials and service contracts, consistent with law. It is further the policy of the county to prohibit discrimination against any business in pursuit of these opportunities on the basis of race, color, national origin, religion, sex, age, disability, or veteran's status. It is further the policy of the county to conduct its contracting programs so as to prevent such discrimination, correct present discrimination and to resolve claims of such discrimination.

(Ord. of 1-14-08(1), § 1)

Sec. 8-133. - Definitions.

Unless the context requires otherwise, the following words as used in this article have the indicated meanings:

To *bid* means to offer to furnish goods or services. Bids are the means by which the offer is communicated and includes, but is not limited to, formal and informal bids, proposals, and responses to a request for proposals. A bid need not be in writing, unless otherwise required.

Bidder means a business which has bid to provide goods or services to the county.

Business includes businesses regardless of legal status, including persons, corporations, partnerships, joint stock companies, joint ventures and any other private legal entity.

Contractor means a business which has a contract with the county to provide goods or services to the county.

County means County of Durham, North Carolina.

County manager means the Durham County Manager or the county manager's designee.

Department head means the Durham County Department Head or the designee of the department head, such as the project manager.

Director means the Durham County Purchasing Director or the designee of the director.

Goals means M/WBE goals expressed as a percentage of the total dollar volume for participation of minorities and women on county contracts.

Goods mean apparatus, supplies, materials and equipment.

Historically underutilized business means a business which meets the conditions specified in G.S. 143-128.4(a).

Joint venture means an association of two or more businesses to carry out a single enterprise for profit, for which purpose they combine their property, capital, efforts, skills, or knowledge.

MBE means an M/WBE which is a minority business enterprise, which includes minority or women business enterprise.

M/WBE means a business which holds a current certification as a minority or women business enterprise.

Minority means an individual who is a citizen or lawful permanent resident of the United States and who is:

- (1) *African American*. A person having origins in any of the black racial groups of Africa.
- (2) *Asian American*. A person having origins in any of the original peoples of the Far East, Southeast Asia, Asia, Indian continent, or Pacific Islands.
- (3) *Hispanic American*. A person of Spanish or Portuguese culture having origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race.
- (4) *Native American*. A person having origins in any of the original Indian peoples of North America.

Other professional means professional services other than architecture, engineering, or professional services performed for the human services agencies of the county.

Services mean nonconstruction services.

Subcontractor means any business contracting with a contractor to provide goods and/or services in fulfillment of the contractor's obligations arising from a contract with the county.

WBE means an M/WBE which is a woman-owned business enterprise.

(Ord. of 1-14-08(1), § 1)

Sec. 8-134. - Administration.

- (a) The county manager, with the advice of the director, shall implement this article. The county manager is hereby authorized to take all usual and legal administrative actions necessary to implement this article.
- (b) This article applies to all bids and contracts for the purchase of goods or services which the county enters into after the adoption hereof.
- (c) The county manager and the director shall consider and implement special programs to assist local M/WBEs including, but not limited to, bonding assistance and technical assistance.

(Ord. of 1-14-08(1), § 1)

Sec. 8-135. - Encouragement of M/WBE contracting.

- (a) *Race-neutral steps*. The county shall take the following race-neutral steps to attempt to eliminate discrimination which has been shown to exist.

- (1) *Creation and identification of separate work.* In the preparation of bid request packages and in projects in which the county engages an independent architect or engineer, the director and department head shall make reasonable attempts to divide the work requirements so that there are good opportunities for small companies to perform as subcontractors. This may be accomplished, for example, by the director and department head working together to identify contracting strategies which ensure that opportunities are created for smaller firms.
 - (2) *Advertising for bids.* Whenever the county manager finds it to be reasonably practicable, a period of at least 30 days will be given between advertising and receiving bids so that small companies may have adequate time to obtain bonding, licensing, or any other technical assistance. Further, such advertising shall be made through the majority and minority media as well as through majority and minority trade and professional organizations and publications.
 - (3) *Pre-bid conference.* The director shall be present at each pre-bid conference. The director shall provide potential subcontractors with a list of contractors who attend the pre-bid and pre-proposal meetings.
 - (4) *Bonding, etc.* The county manager shall, where applicable and feasible, make efforts to assist companies in obtaining bonding. Bonding and other technical assistance shall be coordinated with the United States Small Business Administration, other governmental entities and, where feasible, financial institutions.
 - (5) *[System development.]* The director shall develop a system to make available information on current informal bids via internet access or electronic mail.
 - (6) *Other requirements.* The director shall insert, in contracts to be executed by the county, provisions requiring the other parties to adhere to the requirements of this article.
- (b) *Race-conscious steps.* The county shall take the following race-conscious steps to attempt to eliminate discrimination which has been shown to exist:
- (1) *Maintaining M/WBE availability data bank.* The county shall utilize the statewide data bank of historically underutilized businesses, established by the North Carolina Department of Administration HUB Office. This information is to be made available to all prospective contractors and shall be used by the county in notifying M/WBEs of opportunities to contract with the county. The director shall utilize electronic technology to the greatest extent practicable to maintain information on certified historically underutilized businesses which seek to do business with the county. The information should include at least the following: name of business, address, telephone number, services or products provided, capabilities of the business, line of work performed by the business, licensing and number of persons employed by ethnicity and gender.
 - (2) *Outreach and assistance to subcontractors.* To ensure that opportunities to participate on county contracts are available to the widest feasible universe of interested, available and qualified businesses, the county shall develop and implement a written comprehensive outreach program aimed at increasing business participation in the county's contracting and procurement process. This program may include, without limitation, any or all of the following:
 - a. The county may disseminate at community events, trade shows, and other appropriate business functions, and publish at regular intervals, in print and in electronic media (including publications or electronic media targeted to MWBEs and small businesses) information describing the minority business opportunity program and the functions of the county.
 - b. The county may establish a procedure to engage in continuous recruitment and outreach efforts directed at business assistance organizations to increase the pool of businesses available to do business with the county. The county may identify suppliers through business development organizations and participation at various trade shows, supplier diversity groups and work with various national and local supplier development councils and organizations.

- c. The county may disseminate at community events, trade shows, and other appropriate business functions, and publish at regular intervals, in print and in electronic media, information identifying ongoing contracting opportunities with the county, and providing contact information by which businesses may obtain additional information from the county. The county will provide this information in languages other than English, where appropriate. To the extent feasible, the county may enter into arrangements to share data regarding upcoming county projects, and subcontracting opportunities on the projects, with other businesses and agencies or jurisdictions in the region.
 - d. The county may assist businesses in submitting bids for eligible projects by providing individualized counseling, and/or by conducting seminars regarding the process for submitting a bid on a county project. The county may sponsor "How to do business with the County of Durham" seminars and invite a wide array of businesses.
 - e. The county may actively encourage businesses to attend the pre-bid conferences, providing face-to-face and one-on-one meeting opportunities with employees of the county within the divisions and departments that are involved with the contracting and procurement process. The county may establish and implement training and awareness programs with the employees of the county's user departments to educate them with regard to increasing utilization of MWBEs.
- (c) *Bidders' responsibilities.* Bidders shall take affirmative steps prior to submission of any bid to encourage participation in projects by M/WBEs where discrimination has been shown to currently exist. Such steps shall include:
- (1) Segmenting total work requirements to permit M/WBE participation.
 - (2) Assuring that M/WBEs are solicited whenever there are possible sources of goods or services. This may include:
 - a. Sending letters or making other personal contacts with M/WBEs (e.g. those whose names appear on the historically underutilized businesses listed in the North Carolina State-Wide Data Bank). M/WBEs are to be contacted within a reasonable time prior to bid submission or the closing date of receipt of initial offers. Those letters or other contacts shall communicate the following:
 - 1. A specific and accurate description of the work to be subcontracted;
 - 2. Information on how and where to obtain a copy of this article and specification or other detailed price quotation;
 - 3. The date the quotation is due to the bidder for preparation of the bid; and
 - 4. The name, address and phone number of the person in the bidder's business whom the prospective M/WBE subcontractor should contact for additional information.
 - b. Sending letters or making other personal contacts, as referenced in subsection 8-135(b)(2)a., with local state, federal, and private agencies and M/WBE associations relevant to the project. Such contacts should provide the same information as provided in the direct contact with M/WBEs.
 - c. Where feasible, establishing delivery schedules which will encourage participation by M/WBEs.
 - d. In determining the availability of M/WBEs, the relevant area shall be the same as that used to solicit bidders.
 - (3) Attending the pre-bid conference, if such a conference is held.
 - (4) Advertising in minority/female trade publications and minority/female-owned media no less than 20 days from the date that bids are due. If 20 days are not available, advertising must be sought as soon as the bidder learns of the solicitation of bids. The publication should be one which

reasonably covers the area used to solicit the bidder. The advertisement should be for specific subcontracts described in reasonable detail.

- (5) The advertised subcontracts should equal the M/WBE goal specified in the bid.
 - (6) Assisting M/WBEs in finding sources of bonding and insurance required by the bidder.
 - (7) Not imposing requirements regarding surety bonds that are more onerous for M/WBEs than for non-M/WBEs similarly situated.
 - (8) Making all reasonable efforts to provide technical assistance to assist in the upgrading of M/WBE capabilities.
 - (9) Making bulk purchases whenever reasonably practicable in order to reduce the capital requirements of M/WBE subcontractors.
 - (10) Reporting all businesses which it has reasonable grounds to believe have fraudulently claimed M/WBE status in order to unjustly benefit from the requirements of this article.
 - (11) To demonstrate compliance with the responsibilities as set forth herein, bidders shall keep detailed records of all correspondence with M/WBEs and the responses thereto, logs of all telephone calls made and received regarding the project and copies of advertisements in minority and women-owned publications and media.
- (d) *Responsibilities of bidders and contractors.* Bidders and contractors shall:
- (1) Furnish regular reports and information, in a form determined by the director (Appendix E, M/WBE Documentation for Contract Payments) sufficient to allow the county and the director to determine that the bidders and contractors are meeting the requirements of this article. This information must be submitted by the contractor to the county department head or designee, with each pay request.
 - (2) Cooperate in good faith with the county to attempt to resolve any complaints of discrimination made against bidders and contractors.
 - (3) After the county manager has identified a bidder as the apparent lowest responsible bidder, whether as a result of a sealed bid process or otherwise, and that bidder proposes to replace a subcontractor, to increase the quantity of subcontracted work, or to change the allocation of work among subcontractors, the bidder must provide M/WBEs an equal opportunity for such work. Substitutions of subcontractors in these circumstances, both prior to and after the awarding of a contract, are subject to the written approval by the county manager.
 - (4) When a contractor proposes to replace subcontractors, to increase the quantity of subcontracted work, or to change the allocation of work among subcontractors, the contractor must provide M/WBEs an equal opportunity for such work. Substitutions of subcontractors in these circumstances are subject to the written approval of the county manager.
- (e) *Obligations of M/WBEs.* M/WBEs and businesses that qualify to be certified as M/WBEs are responsible for promoting themselves and taking the initiative to obtain contracts and subcontracts, and for encouraging joint venture arrangements. M/WBE's interested in special assistance shall take the following steps:
- (1) Submit information to the contract recipients to identify status as an MBE or WBE.
 - (2) Become certified as an MBE or WBE under the North Carolina Department of Administration, Historically Underutilized Business (HUB) certification program.
 - (3) Contact federal, state, and local M/WBE liaison offices to obtain information on potential jobs.
 - (4) Provide capability statements to state agencies, the director, county engineer, and prospective bidders stating types of work performed by the business, size of job that the business could handle, bonding information and any special skills.

- (5) Make every effort to establish contacts and relationships with prospective bidders for potential future business, including attending pre-bid conferences and subscribing to industry and trade journals.
- (6) Contact the county's engineering department to obtain information on planned projects. Visit the Durham County website periodically for posting of bid opportunities.
- (7) Respond promptly to solicitation requests.
- (8) Attend seminars, classes, and workshops designed to enhance business skills and the ability to build capacity.

(Ord. of 1-14-08(1), § 1)

Sec. 8-136. - Goals.

- (a) In determining the value of contracts awarded to MBEs and WBEs as required by this section, contracts and subcontracts are deemed awarded if the bidder lists them in the paperwork required by the director as part of the county's bid process. Durham County hereby establishes the following goals for the expenditure of funds with M/WBEs:

Ethnicity/Race/Gender Industry	African American	Asian American	Hispanic American	Native American	Women-Owned
Construction	2.61%	N/A	N/A	N/A	3.98%
Construction subcontracting	14.67%	N/A	2.14%	N/A	10.76%
Professional services (including architecture and engineering)	N/A	N/A	N/A	N/A	N/A
Other professional services	7.20%	N/A	N/A	N/A	3.55%
Goods/supplies	N/A	N/A	N/A	N/A	12.05%

- (b) The county manager may waive the required goals subject to the availability of qualified firms. The county reserves the right to set goals on a project-by-project basis depending on the availability of qualified firms.

(Ord. of 1-14-08(1), § 1)

Sec. 8-137. - Certification of M/WBEs.

- (a) Minority businesses seeking to be counted toward Durham County's minority business participation goals shall be certified or designated as minority business by the North Carolina Department of Administration HUB Office, or by another certifying agency of the State of North Carolina or local unit of government.

- (b) As a result of North Carolina's Legislative Session Law 2007, Senate Bill 320, a new requirement has been created for the state department of administration to develop and administer a state-wide uniform program for certification of Historically Underutilized Businesses (HUBs) for use by state and local agencies, and to create and maintain a state-wide database of certified HUBs. This requirement for all state and local agencies to use HUB's listed in the database created in accordance with the new law becomes effective July 1, 2009.
- (c) Pursuant to the provisions of G.S. Article 3, § 143-128.4 shall read as follows:
- (1) *G.S. 143-128.4. Historically underutilized business defined; state-wide uniform certification.* As used in this chapter, the term "historically underutilized business" means a business that meets all of the following conditions:
 - a. At least 51 percent of the business is owned by one or more persons who are members of at least one of the groups set forth in subsection (d) of this section, or in the case of a corporation, at least 51 percent of the stock is owned by one or more persons who are members of at least one of the groups set forth in subsection (d) of this section.
 - b. The management and daily business operations are controlled by one or more owners of the business who are members of at least one of the groups set forth in subsection (d) of this section.
 - (2) As used in this chapter, the term "minority business" means a historically underutilized business.
- (d) To qualify as a historically underutilized business under this section, a business must be owned and controlled as set forth in subsection (c) of this section by one or more citizens or lawful permanent residents of the United States who are members of one or more of the following groups:
- (1) *Black.* A person having origins in any of the black racial groups of Africa.
 - (2) *Hispanic.* A person of Spanish or Portuguese culture having origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race.
 - (3) *Asian American.* A person having origins in any of the original peoples of the Far East, Southeast Asia, Asia, Indian continent, or Pacific Islands.
 - (4) *American Indian.* A person having origins in any of the original Indian peoples of North America.
 - (5) *Female.*
 - (6) *Disabled.* A person with a disability as defined in G.S. 168-1 or G.S. 168A-3.
 - (7) *Disadvantaged.* A person who is socially and economically disadvantaged as defined in 15 U.S.C. § 637.

(Ord. of 1-14-08(1), § 1)

Sec. 8-138. - Contractor selection procedures.

- (a) *Contractor and subcontractor selection.* The county may award the contract and/or reject bids in accordance with law, taking into consideration M/WBE requirements. In writing specifications and requirements for bidding, the county manager may specify what M/WBE and employment information and documents must be submitted with the bid, what M/WBE and employment information must be submitted afterwards and on what schedule. The employment information may include ethnicity, gender, and occupation of employees. If the county manager determines that a bid was made with good faith efforts to comply with this article, the county commissioners and the county manager shall consider that bid to have complied with this chapter in the absence of a bid which has met the M/WBE requirements, including having obtained the goals set forth pursuant to section 8-136.

- (b) *Number of bids.* To the extent allowed by law, for purposes of counting the minimum number of bids required under G.S. 143-132, bids made with good faith efforts to comply with this article shall not be considered to be nonresponsive for failing to meet the M/WBE requirements.
- (c) *Calculation of MWBE participation.* The degree of participation by minority-majority joint ventures, M/WBE contractors and subcontractors in contracts awarded shall be calculated as follows:
- (1) The total dollar value of the contract awarded to the M/WBE is counted as participation.
 - (2) The total dollar value of a contract awarded to an M/WBE owned and controlled by both minority males and nonminority females is counted as participation for minorities and women respectively, in proportion to the percentage of ownership and control of each group in the business. The total dollar value of an M/WBE owned and controlled by minority women is counted as either the minorities' or women's participation, but not both. The M/WBE may choose which category the credit will apply.
 - (3) The county may count as its M/WBE participation a portion of the total dollar value of a contract with a joint venture eligible under the standards of this article equal to the percentage of the ownership and control of the M/WBE partner in the joint venture.
 - (4) The county may count as M/WBE participation only expenditures to an M/WBE that performs a commercially useful function when it is responsible for execution of a distinct element of the work of a contract and for carrying out its responsibilities by actually performing, managing, and/or supervising the work involved. The qualified owners themselves must be actively involved in carrying out those responsibilities. To determine whether an M/WBE is performing a commercially useful function, the county shall take into account the amount of work subcontracted, industry practices, the adequacy of the resources of the business for the work, the qualification of the owners.
 - (5) Consistent with normal industry practices, an M/WBE may enter into subcontracts. If an M/WBE bidder or contractor subcontracts a significantly greater portion of the work of the contract than would be expected based on normal industry practices, the M/WBE shall be presumed not to be performing a commercially useful function. The M/WBE may present evidence to rebut this presumption to the county.
- (d) *Documenting M/WBE participation.* Bidders shall be required to submit, at a time and in a form specified by the director, the following information on each M/WBE related subcontract:
- (1) A description of the subcontractors for significant goods and services to be used to perform the prime contract, and the name, address, contact person and telephone number of each of those subcontracts;
 - (2) The dollar amount of participation of each M/WBE;
 - (3) A statement of intent from each prospective M/WBE subcontractor identified in subsection (d)(1) above, to the effect that it intends to subcontract as described;
 - (4) If the bid does not indicate that the bidder will achieve the applicable M/WBE goals, the bidder shall submit sworn statements, with appropriate documentation, showing that it made good faith efforts to engage M/WBEs; and
 - (5) M/WBE's must be certified by the North Carolina Department of Administration HUB Office, or by another certifying agency of the State of North Carolina or local unit of government prior to submittal of a bid in order to receive credit towards the achievement of the M/WBE goals.
- (e) *Good faith efforts.* It is the responsibility of bidders and contractors to make good faith efforts. Any act or omission by the county shall not relieve them of this responsibility. The county manager shall apply the following criteria, with due consideration of the quality, quantity, intensity and timeliness of efforts of bidders and contracts, in determining good faith efforts to engage M/WBEs, along with criteria that the county manager deems proper:
- (1) Attendance at the pre-bid conference, if held;

- (2) Whether and when the bidder or contractor provided written notice to all M/WBEs listed in the North Carolina Department of Administration HUB Office databank that performs the type of work to subcontract and advising the M/WBEs:
 - a. Of the specific work the bidder or contractor intends to subcontract;
 - b. That their interest in the contract is being solicited; and
 - c. How to obtain and inspect the applicable plans, specifications and descriptions of the item to be purchased.
- (3) Whether the bidder or contractor selected feasible portions of work to be performed by M/WBEs, including, where appropriate, breaking contracts or combining elements of work into feasible units, and considering the ability of the bidder or contractor to perform the work with its work force;
- (4) Whether the bidder or contractor considered all bids received from M/WBEs and for those bids not accepted, the bidder or contractor shall provide an explanation of why the M/WBE will not be used during the course of the contract;
- (5) Whether the bidder or contractor provided interested M/WBEs assistance in reviewing applicable plans and specification and descriptions of items to be purchased;
- (6) Whether the bidder or contractor advertised in general circulation, trade association and minority/women focus media concerning the subcontracting opportunities;
- (7) Whether the bidder or contractor provided written notice to a reasonable number of specific M/WBEs that their interest in the contract was being solicited, in sufficient time to allow them to participate effectively;
- (8) Whether the bidder or contractor followed up initial solicitation of interest by contacting M/WBEs to determine with certainty whether the M/WBEs were interested;
- (9) Whether the bidder or contractor provided interested M/WBEs with adequate information about the plans and specification and requirements of the contract;
- (10) Whether the bidder or contractor negotiated in good faith with interested M/WBEs, not rejecting M/WBEs as unqualified without sound reason based on a thorough investigation of their capabilities;
- (11) Whether the bidder or contractor made efforts to assist interested M/WBEs in obtaining bonding, lines of credit or insurance if such assistance was necessary;
- (12) Whether the bidder or contractor effectively used the services of available minority/women community organizations; minority/women contractor groups; local, state and federal minority/women business assistance offices; and other organizations which provided assistance in recruitment and placement of M/WBEs;
- (13) Whether the bidder or contractor has utilized M/WBE subcontractors on other county contractors; and
- (14) Whether the bidder or contractor's efforts were merely pro forma, and given all relevant circumstances, could not reasonably be expected to provide sufficient M/WBE participation to meet the goals.

(Ord. of I-14-08(1), § 1)

Sec. 8-139. - Enforcement and monitoring.

(a) *Contract compliance.*

- (1) The county manager and the director shall be responsible for monitoring all contracts for compliance with M/WBE requirements. They may take the following steps to determine such compliance:
 - a. Conducting site visits;
 - b. Reviewing all documents submitted for payment by the contractor to determine whether payments are being made to M/WBEs as indicated in the contract and bid;
 - c. Reviewing certification.
 - (2) The contractor shall submit such information to the director, which the director designates as reasonably necessary to determine whether the contractor complies with the M/WBE requirements of the contract.
 - (3) If the county manager, with the advice of the director, notifies the contractor of the county manager's finding that there are deficiencies in the performance of the contractor insofar as compliance with this article, the contractor shall have 15 days, or if 15 days do not remain in the contract, a reasonable lesser amount of time to cure the deficiencies. If a contractor materially breaches the M/WBE requirements of the contract, and has not cured the breach within the time allowed for the purpose, the county commissioners shall have the right to take all lawful action in response thereto, including, but not limited to, terminating the contract, imposing liquidated damages, and/or considering the contractor to be nonresponsible when awarding future county contractors.
- (b) *Sanctions.* All contractors, after being awarded a contract, are legally bound to observe their terms of the contract, including all M/WBE provisions. The county commissioners have the authority to impose penalties for noncompliance with the provisions of this article including, suspension of contract eligibility, liquidated damages, and termination of the contract.
- (c) *Maintaining M/WBE participation.* Contractors must maintain the M/WBE percentages indicated at the time of contract award throughout the term of the contract. This includes any increase of the contract by amendment of change order. For contracts in the amount provided by G.S. 143-129, or any local act pertaining thereto where there are certified minority/women business enterprise firms available for subcontracting, failure by the contractor to comply with pre-bid requirements under section 8-138, or to adequately document good faith efforts to subcontract with M/WBE firms, or to purchase significant material supplies from M/WBE firms, shall subject the bid to rejection as being nonresponsive.
- (d) *Monitoring the program.* The county manager, with input of the director, shall be responsible for monitoring the implementation of this article and reporting to the county commissioners annually on the efficiency of this article. To the greatest extent possible the county shall utilize computerized electronic systems for monitoring compliance and providing reports as required under this article. Toward that end, the county manager shall have compiled:
- (1) Reports from the information submitted by successful bidders outlining the total dollars spent and the amount spent for minority contractors;
 - (2) A fiscal report on all contracts awarded;
 - (3) A comparison of the percentage of M/WBEs and major contractors doing business with the county;
 - (4) A report on the percentage of M/WBEs located in the county;
 - (5) Reports describing the general categories of contracts awarded M/WBEs;
 - (6) Reports showing the percentage of dollar values of all contracts awarded during the quarter which were awarded to M/WBEs;
 - (7) Separate records relating to MBEs and WBEs; and
 - (8) Other documentation necessary to substantiate disparity.

(Ord. of 1-14-08(1), § 1)

Sec. 8-140. - Contracts awarded by the county manager.

- (a) The county manager may determine that all or specified portions of the following parts of this article shall not apply to contracts that are to be awarded by the county manager:

Section:

8-135(a)(2)	Advertising for bids
8-135(c)	Bidders' responsibilities
8-138(d)	Documenting M/WBE participation
8-138(e)	Good faith efforts

- (b) The determination may be made for classes of contracts or for individual contracts. The determination shall be in writing.

(Ord. of 1-14-08(1), § 1)

Sec. 8-141. - Federal and state requirements; conflict resolution.

Where a federal or state grant agreement, or any federal or state law or regulations prevent the full application of this article, this article shall apply to the extent permitted by the applicable agreement, laws, and regulations.

(Ord. of 1-14-08(1), § 1)

Sec. 8-142. - Effective date.

This article shall continue in effect until 11:59 p.m. on December 31, 2012, at which time it shall be deemed repealed without further action by the county commissioners. Unless otherwise provided by an ordinance enacted by the county commissioners or by a contract between the county and the other party of the contract, if a legal action is commenced before the repeal of this article to enforce any contractual provision which incorporates by reference any of this article, the rights of parties with respect to such contractual provision shall, for purposes of the legal action, continue in effect notwithstanding the repeal. This article shall be effective on ratification.

The total value of minority business contracting will be (\$) _____

AFFIDAVIT A

This Affidavit and ALL THREE (3) SECTIONS Herein Must Be Completed By ALL BIDDERS and Submitted with Bid.

Section I - Listing of the Good Faith Effort

Bidder must earn at least 50 points from the Good Faith Efforts list for their Bid to be considered responsive and must submit documentation supporting all items checked within the timeframes set forth in Section III below.

I have made Good Faith Effort to comply under the following areas checked:

- 1 - Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed. "Contact" means contact by letter, fax, e-mail or other means to a viable and active address. CONTRACTOR MUST ATTACH EVIDENCE OF CONTACT TO THIS AFFIDAVIT AND SUBMIT WITH BID. Value = 10 points.
- 2 - Made the construction plans, specifications and requirements available for review by prospective MWBE businesses, or providing these documents to them at least 10 days before the bids are due. Value = 10 points.
- 3 - Broken down or combined elements of work into economically feasible units to facilitate minority participation. Value = 15 points.
- 4 - Worked with MWBE trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of MWBE'S. Value = 10 points.
- 5 - Attended prebid meetings scheduled by the public owner. Value = 10 points.
- 6 - Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors. Value = 20 points.
- 7 - Negotiated in good faith with interested MWBE'S and did not reject them as unqualified without discussing with MWBE'S sound reasons based on their capabilities. CONTRACTOR MUST ATTACH TO THIS AFFIDAVIT AND SUBMIT WITH BID COPIES OF QUOTES OR RESPONSES FROM ALL FIRMS SUBMITTING QUOTES OR RESOPNSES, AND, IF APPLICABLE, WRITTEN JUSTIFICATION FOR ANY REJECTION OF A MWBE BASED ON LACK OF QUALIFICATION. Value = 15 points.
- 8 - Provided assistance to an otherwise qualified MWBE in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help MWBE businesses in establishing credit. Value = 25 points.
- 9 - Negotiated joint venture and partnership arrangements with MWBE businesses in order to increase opportunities for MWBE business participation on the construction or repair project when possible. Value = 20 points.
- 10 - Provided quick pay agreements and policies to enable MWBE contractors and suppliers to meet cash-flow demands. Value = 20 points.

The undersigned hereby certifies that he or she has read the terms of the MWBE business commitment, that the bidder has made the Good Faith Efforts in the areas checked above, and that he or she is authorized to bind the bidder to the commitment herein set forth.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Section II - Portion of the Work to be Performed by Minority Firms

I will expend a minimum of _____% of the total dollar amount of the contract with MWBE. MWBE will be employed as construction subcontractors, vendors, suppliers or providers of professional services. Such work will be subcontracted to the following firms listed below.

(Attach additional sheets if necessary)

Name and Phone Number	*MWBE Category	Work description	Dollar Value

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

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

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

Date _____ Name of Authorized Officer: _____
 Signature: _____

Section III — Documentation of Good Faith Efforts

ALL BIDDERS, regardless of percentage of MWBE participation, MUST provide documentation of all Good Faith Efforts checked in Section I within the timeframes set forth in Parts A and B below.

Failure to submit these documents / information shall be grounds for deduction of Good Faith Points. In the event such a deduction results in a failure to achieve the required number of Good Faith Points, the Bid shall be rejected unless the bidder has otherwise demonstrated Good Faith Efforts.

PART A (Documentation Required to be Submitted With Bid)

Documentation MUST be provided WITH THE BID in order for the bidder to receive credit for certain items checked. If the bidder checked Items 1 or 7 in Section I, the bidder MUST provide documentation supporting those Good Faith Efforts WITH THE BID.

Examples of such documentation include, but are not limited to, the following:

ITEM 1

- Copies of solicitations for quotes to at least three (3) MWBE's from the source list provided by the State for each subcontract to be let under this contract (if 3 or more firms are shown on the source list). Each solicitation shall contain a specific description of the work to be subcontracted, location where bid documents can be reviewed, representative of the Prime Bidder to contact, and location, date and time when quotes must be received.
- Copies of quotes and responses received from each firm responding to the solicitation.
- A telephone log of follow-up calls to each firm sent a solicitation.

ITEM 7

- Copies of quotes or responses received from all firms submitting quotes or responses for each subcontract, and, if applicable a letter detailing the reason(s) for any rejection of minority business(es) due to lack of qualification.

I do certify the attached documentation as true and accurate representation of my good faith efforts.

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____

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

Notary Public _____

My commission expires _____

PART B (Documentation Required to be Submitted Within 72 Hours of Notification)

Certain documentation MUST be provided within 72 hours of notification of being the apparent lowest responsible, responsive bidder in order to receive credit for certain additional items checked. If the bidder checked items 2, 3, 4, 5, 6, 8, 9 or 10, the bidder MUST provide documentation supporting those Good Faith Efforts within 72 hours of notification of being the apparent lowest responsible, responsive bidder.

Examples of such documentation include, but are not limited to the following:

ITEM 2

- Invitation to view construction plans, specifications and requirements.
- Cover letter enclosing construction plans, specifications and requirements.

ITEM 3

- Copies of all bid solicitations or request for proposals broken down by scope of work.
- Letter detailing contractor's efforts to break down or combine elements of work into economically feasible units to facilitate minority participation.

ITEM 4

- Documentation of any contacts or correspondence to MWBE, community, or contractor organizations in an attempt to meet the goal.

ITEM 5

- Copy of pre-bid roster.

ITEM 6

- Letter documenting efforts to provide assistance in obtaining required bonding or insurance for MWBE.

ITEM 8

- Letter documenting proposed assistance offered to minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letter of credit, including waiving credit that is ordinarily required.

ITEM 9

- Letter documenting negotiations with MWBE businesses to create joint venture or partnership arrangement for the construction or repair project.

ITEM 10

- Copy of quick pay agreements.
- Copy of quick pay policies.

I do certify the attached documentation as true and accurate representation of my good faith efforts.

Date _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____
Subscribed and sworn to before me this _____ day of _____ 20____
Notary Public _____
My commission expires _____

AFFIDAVIT B Intent to Perform Contract with Own Workforce.

County of _____

Affidavit of _____
(Name of Bidder)

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

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

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

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

Date: _____ Name of Authorized Officer: _____

Signature: _____

Title: _____



State of North Carolina, County of _____
Subscribed and sworn to before me this _____ day of _____ 20____
Notary Public _____
My commission expires _____

APPENDIX E

MWBE DOCUMENTATION FOR CONTRACT PAYMENTS

Prime Contractor/Architect: _____

Address & Phone: _____

Project Name: _____

Pay Application #: _____ Period: _____

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

A	B	C	D	E	F	G	H
MWBE FIRM NAME	* TYPE OF MWBE	ORIGINAL CONTRACT AMOUNT	PREVIOUS PAYMENTS	PAYMENT THIS PERIOD	TOTAL CHANGE ORDERS TO DATE	TOTAL AMOUNT COMMITTED (C + F)	TOTAL RETAINED TO DATE

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

Approved/Certified By:

Name

Title

Date

Signature

SUBMIT WITH EACH PAY REQUEST - FINAL PAYMENT - FINAL REPORT

Identification of MWBE Participation

Submission of Affidavits which include statements of "To Be Determined" or failure to submit the required information as outlined in the Specifications shall cause the Bid be deemed non-responsive and subject to rejection.

(Name of Bidder)

do hereby certify that on this project, we will use the following minority business enterprises as construction subcontractors, vendors, suppliers or providers of professional services.

Firm Name, Address and Phone #	Work type	"MWBE Category

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

OWNER-CONTRACTOR AGREEMENT

PROJECT NUMBER:179-2324.725

SCHOOL NAME: CC Spaulding Elementary

THIS AGREEMENT, in four (4) copies, made this () day of _____, Two Thousand and Nineteen by and between _____ (herein referred to as the "Owner"), whose mailing address is _____ and _____ (herein referred to as the "Contractor"), whose mailing address is _____.

Correspondence, submittals, and notices relating to or required under this Contract shall be sent in writing to the above addresses; unless either party is notified in writing by the other, of a change in address.

WITNESSETH:

WHEREAS, it is the intent of the Owner to obtain the services of the Contractor in connection with the new construction of () (hereinafter referred to as the "Project" or the "Work"); and

WHEREAS, the Contractor desires to perform such construction in accordance with the terms and conditions of this Agreement,

NOW, THEREFORE, in consideration of the promises made herein and other good and valuable consideration, the following terms and conditions are hereby mutually agreed to, by and between the Owner and Contractor:

Article 1

DEFINITIONS

- 1.1 All terms in this Agreement which are defined in the Information for Bidders and the General Conditions shall have the meanings designated therein.

- 1.2 The Contract Documents are as defined in the General Conditions. Such documents form the Contract, and all are as fully a part thereof as if attached to this Agreement or repeated herein. The Contract Documents consist of the Owner-Contractor Agreement, the General and Supplemental Conditions of the Contract, the Drawings, the Specifications, all Addenda issued prior to bidding, and all Modifications and Change Orders issued after execution of the Contract.

Article 2

STATEMENT OF THE WORK

- 2.1 The Project is the Work identified in the plans and specifications prepared by Bute PLLC dated 3.7.24 for _____ Board of Education, _____, including the following addenda:

A listing of the plans and specifications included in the Contract Documents is attached as Exhibit A.

- 2.2 The Parties agree that the Project shall include the following alternates:

- 2.3 The Parties agree to the following modifications to the Project's plans and specifications, including the noted value engineering items:

List item(s) and proposed deduct/add(s). If none, delete this language list "None"

- 2.4 The Parties agree that the following allowances are included in the Contract Sum in Section 5.1 below:

List item(s) and proposed allowance(s). If none, delete this language list "None"

- 2.5 The Contractor shall provide and pay for all materials, tools, equipment, labor and professional and non-professional services, and shall perform all other acts and supply all other things necessary, to fully and properly perform and complete the Work, as required by the Contract Documents.
- 2.6 The Contractor shall further provide and pay for all related facilities described in any of the Contract Documents, including all work expressly specified therein and such additional work as may be reasonably inferred therefrom, saving and excepting only such items of work as are specifically stated in the Contract Documents not to be the obligation of the Contractor. The totality of the obligations imposed upon the contractor by this Article and by all other provisions of the Contract Documents, as well as the structures to be built and the labor to be performed, is herein referred to as the "Work".

Article 3

DESIGN CONSULTANT

- 3.1 The Design Consultant (as defined in the General Conditions) shall be **(ButePLLC)** is **(PO Box 2833 Durham NC 27715)**, however, that the Owner may, without liability the Contractor, unilaterally amend this Article from time to time by designating a different person or organization to act as its Design Consultant and so advising the Contractor in writing, at which time the person or organization so designated shall be the Design Consultant for purposes of this Contract.

Article 4

TIME OF COMMENCEMENT AND COMPLETION

- 4.1 The Contractor shall commence the Work promptly upon the date established in the Notice to Proceed. If there is no Notice to Proceed, the date of commencement of the Work shall be the date of this Agreement or such other date as may be established herein.
- 4.2 Time is of the essence. The Contractor shall achieve Final Completion, as defined in the General Conditions on or before the date established for Final Completion in the Supplemental Conditions.

- 4.3 The Supplemental Conditions contains certain specific dates that shall be adhered to and are the last acceptable dates unless modified in writing by mutual agreement between the Contractor and the Owner. All dates indicate midnight unless otherwise stipulated. The only exceptions to this schedule are defined in the General Conditions under 8.3 DELAYS AND EXTENSIONS OF TIME.
- 4.4 Should the Contractor fail to complete the Work on or before the dates stipulated for Substantial Completion and/or Final Completion, or such later date as may result from an extension of time granted by the Owner, he shall pay the Owner, as liquidated damages the sums set forth in the General and Supplemental Conditions.

Article 5

CONTRACT SUM

- 5.1 Provided that the Contractor shall strictly and completely perform all of its obligations under the Contract Documents, and subject only to additions and deductions by Modification or as otherwise provided in the Contract Documents, the Owner shall pay to the Contractor, in current funds and at the time and in the installments hereinafter specified, the sum of _____ Dollars (\$ _____) herein referred to as the "Contract Sum". This amount includes the base bid and the Alternates in Section 2.2
- 5.2 The Contract Sum includes the value engineering items and other contract modifications noted in Section 2.3 above that total \$ _____.
- 5.3 Unit Prices are established as follows for the Project:

Unit Price No. 1	Plaster Repair in place per sq. yd	\$
Unit Price No. 2	Painting, in place per sq. yd	\$
Unit Price No. 3		\$
Unit Price No. 4		\$
Unit Price No. 5		\$

Unit Price No. 6		\$
Unit Price No. 7		\$
Unit Price No. 8		\$

Article 6

PROGRESS PAYMENTS

6.1 The Contractor hereby agrees that on or about the First day of the month for every month during the performance of the Work he will deliver to the Owner's Project Manager an Application for Payment in accordance with the provisions of Article 9 of the General Conditions. This date may be changed upon mutual agreement, stated in writing, between the Owner and Contractor. Payment under this Contract shall be made as provided in the General Conditions. Payments due and unpaid under the Contract Documents shall not bear interest.

Article 7

OTHER REQUIREMENTS

- 7.1 The Contractor shall submit the Performance Bond, Labor and Material Payment Bond and Certification of Insurance as required by the Contract Documents.
- 7.2 The Owner shall furnish to the Contractor one **(1)** set of drawings and one **(1)** set of specifications, at no extra cost, for use in the Construction of the Work. Additional sets of drawings or specifications may be obtained by the Contractor by paying the Owner for the costs of reproduction, handling and mailing.
- 7.3 The Contractor shall make a good faith effort to utilize Historically Underutilized Businesses (HUB's) per N.C. Gen. Stat. 143-128.2, and as described in the construction documents.
- 7.4 The General Conditions, Supplemental Conditions and the plans and specifications, including any addenda, are incorporated herein by reference.

IN WITNESS WHEREOF, _____ Board of Education (hereinbefore called the "Owner") has caused these presents to be signed and its corporate seal to be hereunto affixed, attested by its Chairperson and Secretary, and _____ (hereinbefore called "Contractor") has caused these presents to be signed by its President and its Corporate seal to be hereunto affixed, as hereinafter attested, all as of the day and year first above written.

Mike Lee, Chair, Durham Public Schools Board of Education Date

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

Paul LeSieur, Chief Finance Officer, Durham Public Schools Date

Endorsement:

Executive Director
Durham Public Schools
Construction & Capital Planning

This contract was approved by the Board on the **xxth day of Month Year.**

INSERT CONSULTANT / COMPANY NAME

By: _____

Name/Title: _____

STATE OF NORTH CAROLINA
COUNTY OF DURHAM

I, a Notary Public in and for the aforesaid County and State, do hereby certify that _____ personally appeared before me this day and acknowledged that he/she is _____ of _____, a _____ (state of incorporation) corporation, duly authorized to do business in the state of North Carolina, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its _____, sealed with its corporate seal and attested by _____ as its Corporate Secretary.

Witness my hand and notarial seal this ___ day of _____, 20__.

Notary Public (SEAL/STAMP)

My commission expires: _____

PERFORMANCE BOND

IT IS HEREBY AGREED that

(Insert full name and address of Contractor)

as Principal, hereinafter called Contractor, and,

(Insert full name and address of Surety)

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

as Obligee, hereinafter called Owner, in the amount of _____ Dollars (\$ _____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these obligations.

WHEREAS, Contractor has by written agreement dated _____, 20____, entered into a contract with Owner for the construction of (Insert the name of the Project)

in accordance with Drawings and Specifications prepared by (Insert full name and address of Architect/Engineer)

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

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect. The Surety hereby waives notice of any alteration or extension of time made by the Owner.

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

- 1) Complete the Contract in accordance with its terms and conditions, or
- 2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest

responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of any applicable statute of limitations under the Contract.

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

Signed and sealed this _____ day of _____ 20____.

PRINCIPAL

[Affix corporate seal]

(Name) _____

(Title) _____

(Witness) _____

SURETY

[Affix corporate seal]

(Name) _____

(Title) _____

(Witness) _____

LABOR AND MATERIAL PAYMENT BOND

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

IT IS HEREBY AGREED that

(Insert full name and address of Contractor)

as Principal, hereinafter called "Principal," and,

(Insert full name and address of Surety)

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

as Obligee, hereinafter called Owner, for the use and benefit of claimants as hereinbelow defined, in the amount of _____ for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these obligations.

WHEREAS, Principal has by written agreement dated _____, 20_____, entered into a contract with Owner for the construction of _____ (Insert the name of the Project)

in accordance with Drawings and Specifications prepared by (Insert full name and address of Architect/Engineer)

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

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

1. A claimant is defined as one having a direct contract with the principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days, after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is

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

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

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

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

Signed and sealed this _____ day of _____ 20__.

PRINCIPAL

[Affix corporate seal]

(Name) _____
(Title) _____

(Witness)

SURETY

[Affix corporate seal]

(Name) _____
(Title) _____

(Witness)

Submittal Transmittal Form

Insert Project Name here

To: _____

Date: ____ / ____ / ____

Attn: _____

From: _____

Phone: (____) _____

Submitter: _____

Phone: (____) _____

Product: _____

Section: _____

Manufacturer: _____

Phone: (____) _____

Architectural Dwg. #: _____

Detail Ref: _____

Contractor's Remarks:

Number of Copies: _____ Submittal No.: _____

Product Substitution (*Yes/No): _____

* If yes, has Substitution Request Form been submitted and approved?

Product Substitution Form (Circle one): (Attached) (Previously Submitted & Approved)

DURHAM PUBLIC SCHOOLS
 COUNTY SALES AND USE TAX REPORT
 SUMMARY TOTALS AND CERTIFICATION
 APPENDIX A

CONTRACTOR: _____ FOR PERIOD: _____

PROJECT: _____

	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL FOR COUNTY OF:	TOTAL ALL COUNTIES
CONTRACTOR						
SUBCONTRACTOR(S) *						
COUNTY TOTAL						

- Attach subcontractor(s) report(s)
- ** Must balance with Detail Sheet(s)

I certify that the above figures do not include any tax paid on supplies, tools and equipment which were used to perform this contract and only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete.

Sworn to and subscribed before me,

This the _____ day of _____, 19_____

Signed _____

 Notary Public

My Commission Expires: _____

Print or Type Name of Above

Seal

NOTE:
 This certified statement may be subject to audit

STATE OF NORTH CAROLINA
SALES AND USE TAX REPORT DETAIL
APPENDIX A

Page _____ of _____

CONTRACTOR: _____

SUBCONTRACTOR: _____

PROJECT: _____

FOR PERIOD: _____

PURCHASE DATE	VENDOR NAME	INVOICE NUMBER	TYPE OF PROPERTY	INVOICE TOTAL	COUNTY TAX PAID	COUNTY OF SALE *
				\$	\$	
				TOTAL:	\$	

* If this is an out-of-state vendor, the County of Sale should be the county to which the merchandise was shipped.

CHANGE PROPOSAL WORKSHEET SUMMARY FORM

Project: _____
 Contract: _____
 Contractor: _____

Proposal #: _____
 Project #: _____
 Contractor #: _____

Description of change: _____

*INSTRUCTIONS FOR FORM: Only enter data in yellow boxes - all other fields will automatically calculate.
 Contractor's detailed breakdown of material & labor must accompany this form. Percentages shaded in gray boxes
 are established by contract requirements and should not be modified.*

Materials	(Attach list with Qty, Item, Unit \$, Unit mh, Total mh, OT mh, Total \$)	SUBTOTALS
1	Total Direct Cost of Materials	\$0.00
2	Overhead & Profit on Item 1. (10% maximum, includes small tools & consumables)	10.0 % \$0.00
3	Sales Tax	7.5 % \$0.00
4	Shipping & Transportation	\$0.00
		\$0.00
Labor		
5	Manhours - Straight Time	\$0.00
	0 MH @ \$25.00 /hr.	\$0.00
	Overtime Premium	\$0.00
	0 MH @ \$12.50 /hr.	\$0.00
6	Overhead & Profit on Item 5. (10% maximum on straight labor cost, not premium portion) (O & P includes supervision time)	10.0 % \$0.00
7	Payroll Taxes & Insurance	\$0.00
	30.0% STRAIGHT TIME ONLY	\$0.00
	7.65% OVERTIME PORTION	\$0.00
		\$0.00
Equipment Rental (Include quotes)		
8	Equipment Rental	\$0.00
9	Overhead & Profit on Item 8. (6% maximum)	6.0 % \$0.00
		\$0.00
Subcontractors (Include quotes with material & equipment backup)		
10	Subcontractors	\$0.00
11	Overhead & Profit on Item 10. (6% maximum)	6.0 % \$0.00
		\$0.00
		Subtotal of Proposal \$0.00
12	Bonds (% of subtotal of proposal)	1.5% \$0.00
		TOTAL OF CHANGE PROPOSAL \$0.00

Time Extension Requests: _____ day(s) Schedule Activity # Affected: _____

The Contractor agrees to perform the work outlined in this change proposal for the amount specified above and in accordance with the Contract documents if the work is authorized by the Owner.

Contractor's Signature: _____

Date: _____

Recommended by Design Consultant: _____

Date: _____

Owner's Representative Approval: _____

Date: _____

Change Order Request Form

FORM # _____
 DATE _____

Project Name _____

Reference: (RFI, RFP, ASI, BO) _____

DATE: _____ **PROPOSAL #:** _____ **CONTRACT:** _____

CONTRACTOR: _____ **CONTRACTOR #:** _____

DESCRIPTION OF CHANGE: _____

Materials (Attach list with qty, item, unit mh, total mh, OT mh, Total \$)

- | | | | | | |
|---|----------------------------------|-------|----|-------|---|
| 1 | Total direct cost of materials | | \$ | _____ | - |
| 2 | Sales Tax | 6.75% | \$ | _____ | - |
| 3 | Shipping and transportation | | \$ | _____ | - |
| 4 | Overhead and Profit on Items 1-3 | | \$ | _____ | - (10% maximum). (Includes small tools & consumables) |

Materials Subtotal \$ _____ -

Labor (include time sheets if requested)

- | | | | | | | | |
|---|------------------------------------|----|---|---|----|-------|--|
| 5 | Total man-hours: | 0 | @ | 0 | \$ | _____ | - |
| 6 | Payroll taxes and insurance@ | 0% | | | \$ | _____ | - (40% maximum) |
| 7 | Overhead and Profit on Items 5 & 6 | | | | \$ | _____ | - (10% maximum). (O&P includes supervisor's time). |

Labor Subtotal \$ _____ -

Equipment Rental (includes quotes and pick-up / delivery tickets)

- | | | | | | |
|---|-------------------------------|--|----|-------|-----------------|
| 8 | Equipment Rental | | \$ | _____ | - |
| 9 | Overhead and Profit on Item 8 | | \$ | _____ | - (10% maximum) |

Equipment Rental Subtotal \$ _____ -

Subcontractors (includes quotes with material and equipment backup)

- | | | | | | |
|----|--------------------------------|--|----|-------|----------------|
| 10 | Subcontractors | | \$ | _____ | - |
| 11 | Overhead and Profit on Item 10 | | \$ | _____ | - (5% maximum) |

Subcontractor Subtotal \$ _____ -

Subtotal of Proposal \$ _____ -

- | | | | | | |
|----|------------------------------------|----|----|-------|----------------|
| 12 | Bonds (____% of subtotal proposal) | 0% | \$ | _____ | - (2% maximum) |
|----|------------------------------------|----|----|-------|----------------|

TOTAL OF CHANGE PROPOSAL \$ _____ -

Time Extension Request _____ days _____ Schedule Activity # Affected _____ Schedule Date: _____

Contractor's Signature: _____ **Date:** _____

Architect's Signature: _____ **Date:** _____

Owner's Signature: _____ **Date:** _____

Note: Subcontractors must also fill out this form for all requested change orders.

Certificate of Compliance Section 00 65 13

Insert Project Name here

Date: Insert Date

Project Address: _____

I here by certify that to the best of my knowledge and actions the As-Built/Record Drawings for the above-indicated project are complete and accurate.

Company: (Firm or Corporation making certification)

Represented By: _____
(Person authorized to sign)

Title: _____

Address: _____

License Number: _____

Federal ID Number: _____

Attest:

By: _____

Title: _____

Contractor's General Warranty

Insert Project Name here

Date: _____
Project: _____
Contract: _____
Address: _____

The undersigned Contractor hereby warrants, in accordance with the applicable provisions and terms set forth in the Contract Documents, all materials and workmanship incorporated in the _____ contract of the _____ School, _____, Durham County, North Carolina, against any and all defects due to faulty materials or workmanship or negligence for a period of twelve (12) months, or such longer periods as set forth in the Contract Documents, from the effective date of this warranty (_____) as defined by the date of substantial completion. This warranty supercedes any and all dates listed in the enclosed subcontractor warranties thus honoring warranty work one year from the date of substantial completion listed here. This contractor further warrants all work incorporated in this project to remain leak proof and watertight at all points for a period of twenty-four (24) months from the effective date of this Warranty.

This Warranty shall be binding where defects occur due to normal usage conditions and does not cover willful or malicious damage, damage caused by acts of God or other casualties beyond the control of the Contractor.

This Warranty shall be in accordance to other warranties and guarantees set forth in the Contract Documents, and shall not act to constitute a waiver of additional protection of the Owner afforded, where applicable, by consumer protection and product liability provisions of law, and these stipulations shall not constitute waiver of any additional rights or remedies available to the Owner under the law.

Date of Substantial Completion: _____

(General Contractor)

By _____

Title _____

Address _____

Subscribed and sworn before me this

_____ day of _____, 20____

License # _____

Fed ID # _____

(Corporate Seal)

(Notary Public)

Certificate of Non Use of Asbestos-containing Products

Insert Project Name here

Date: _____

Project: _____

Address: _____

I here by certify that to the best of my knowledge the products and materials incorporated into the above referenced project are free of asbestos and asbestos-containing materials.

Company: _____

(Name of Firm of Corporation making certification)

Represented By: _____

(Person authorized to sign)

Title: _____

(Owner/Partner/Pres./V. Pres.)

Address: _____

License Number: _____

Federal ID Number: _____

Attest:

By: _____

Title: _____

GENERAL CONDITIONS

NOTICE OF DISCLAIMER

TAKE NOTICE, that these General Conditions may contain language and Article, Section or Paragraph headings or names which appear similar to or the same as the provisions of the "General Conditions of the Contract for Construction", published by the American Institute of Architects, AIA Document A-201.

TAKE NOTICE, however, that these General Conditions are substantially and materially different in many respects from the AIA Document A-201 and that certain additions, deletions or other modifications have been made to provisions similar to those contained in the AIA Document. This document, further, contains provisions, which do not appear in the AIA document.

The use of any language or Article or Paragraph format similar to or the same as AIA Document A-201 does not constitute an endorsement by the American Institute of Architects of this document.

SECTION V GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

TABLE OF ARTICLES

1. CONTRACT DOCUMENTS	9. PAYMENTS AND COMPLETION
2. DESIGN CONSULTANT	10. PROTECTION OF PERSONS AND PROPERTY
3. OWNER	11. INSURANCE
4. CONTRACTOR	12. CHANGES IN THE WORK
5. SUBCONTRACTORS	13. UNCOVERING AND CORRECTION
6. WORK BY OWNER OR BY SEPARATE CONTRACTORS	14. TERMINATION OF THE CONTRACT
7. MISCELLANEOUS PROVISIONS	15. DISPUTE RESOLUTION
8. TIME	

ARTICLE 1

CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.1 **AS SHOWN, AS INDICATED, AS DETAILED:** These words, and words of like implication, refer to information contained in Drawings and Specifications describing the Work, unless explicitly stated otherwise in the Contract Documents.

1.1.2 **CLAIM:** A Claim as used in the Contract is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of contract terms, payment of money, a credit against the payment of money, extension of time or other relief with respect to the terms of the Contract. The term Claim also includes other disputes and matters in question between the parties to a contract involved in the Owner's construction and repair projects arising out of o

relating to the Contract or the construction process.

- 1.1.3 **CONTRACT:** The Contract is the sum of all the Contract Documents. The Contract represents the entire and integrated agreement between the Owner and the Contractor and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Paragraph 1.1.4. The Contract may also be referred to in the Contract Documents as “this Contract”, “this Agreement” or “the Agreement”.
- 1.1.4 **CONTRACT DOCUMENTS:** The Contract Documents consist of the Owner-Contractor Agreement, the Conditions of the Contract (General and Supplemental Conditions), the Plans, Drawings, and Specifications, and all Addenda thereto issued prior to and all Modifications thereto issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties; (2) a Change Order or a Construction Change Directive issued pursuant to the provisions of Article 12; (3) a written interpretation issued by the Design Consultant pursuant to Paragraph 2.2.7; or (4) a written order for a minor Change in the Work issued pursuant to Section 12.4. The Contract Documents do not include any other documents including but not limited to soils, geotechnical or other reports, surveys and analysis, which may be printed, bound or assembled with the Contract Documents, or otherwise made available to the Contractor for review or information under this Contract, unless specifically enumerated and directly incorporated by reference in the Contract Documents.
- 1.1.5 **HE/HIS:** The term He or His is not intended to be gender specific.
- 1.1.6 **MANUFACTURER:** An individual, company, or corporation who manufactures, fabricates, or assembles a standard product. A standard product is one that is not made to special design, and if furnished by either direct sale or by contract to the Contractor, Subcontractor or Vendor.
- 1.1.7 **MATERIAL SUPPLIER OR VENDOR:** A person or organization who supplies, but who is not responsible for the installation of, materials, products and equipment.
- 1.1.8 **NOTICE:** The term Notice as used herein shall mean and include written notice. Notice shall be deemed to have been given when delivered to the address of the person, firm or corporation for whom intended, or to his, their or its duly authorized agent, representative or officer; or when enclosed in a postage prepaid wrapper or envelope addressed to such person, firm or corporation at his, their or its Notice Address and deposited in a United States mailbox by registered or certified mail. To “Notify” means to give Notice. The Notice Addresses for the Owner and Contractor are stated in the Owner-Contractor Agreement and may be changed by a party by giving Notice to the other of such change.
- 1.1.9 **PLANS OR DRAWINGS:** All drawings or reproduction of drawings pertaining to the Work.
- 1.1.10 **PRODUCT:** The term Product includes materials, systems and equipment.
- 1.1.11 **PROJECT:** The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part.
- 1.1.12 **PROPOSAL:** A complete and properly signed document whereby the Contractor proposes to provide additional or a reduced scope of construction work on the Project for the sums stipulated therein, supported by data required by the Design Consultant or Owner.
- 1.1.13 **PROVIDE:** As a directive to the Contractor, and as pertaining to labor, materials equipment,

"provide" means "furnish and install completely".

1.1.14 SPECIFICATIONS: Descriptions, provisions and requirements, pertaining to method and manner of performing the Work, or to quantities and qualities of materials or equipment to be furnished under terms of the Contract.

1.1.15 WORK: The Work comprises the construction and services required of the Contractor by the Contract Documents and includes all labor, supplies and other facilities or things necessary to produce such construction, and all materials, equipment, and supplies incorporated or to be incorporated in such construction.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contractor and Owner acknowledge that neither these General Conditions, nor any other Contract Document shall be construed against the Owner due to the fact that they may have been drafted by the Owner or the Owner's agent. For the purposes of construing these General Conditions, and any other Contract Document, both the Contractor and the Owner shall be considered to have jointly drafted them.

1.2.2 The Owner-Contractor Agreement shall be signed in not less than three (3) copies by the Owner and Contractor, and each of which shall be deemed an original, but all of which shall constitute one and the same instrument.

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

1.2.4 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings unless otherwise specifically defined herein. The table of contents, titles, headings, running headlines and marginal notes contained herein and in said documents are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or cast light upon the interpretation of the provisions to which they refer.

1.2.5 The organization of the Specifications into divisions, sections and articles, and the arrangement of Drawings are for convenience only. The Contractor may subcontract the Work in such divisions as he sees fit consistent with applicable law and he is ultimately responsible for furnishing all of the Work.

1.2.6 Anything shown on the Drawings and not mentioned in the Specifications or mentioned in the Specifications and not shown on the Drawings shall have the same effect as if shown or mentioned respectively in both. Detailed specifications take priority over general specifications and detailed drawings take precedence over general drawings. Any Work shown on one drawing shall be construed to be shown in all drawings. If any portion of the Contract Documents shall be in conflict with any other portion, the various documents comprising the Contract Documents shall govern in the following order of precedence: The Owner-Contractor Agreement; the Supplemental Conditions; the General Conditions; the Specifications; the

Drawings. The Contractor shall notify the Design Consultant and the Owner of all such inconsistencies promptly. Any such conflict or inconsistency between or in the Drawings or Specifications shall be submitted by the Contractor promptly to the Owner and Design Consultant and the Design Consultant's decision thereon shall be final and conclusive.

1.2.7 The Contractor agrees that nothing contained in the Contract Documents or any contract between the Owner and the Design Consultant shall create any contractual relationship between the Design Consultant and the Contractor, or between the Design Consultant and any Subcontractor or Sub-subcontractors. The Contractor acknowledges and agrees that this Contract is not intended to create, nor shall any provision be interpreted as creating, any contractual relationship between the Owner or Contractor and any third parties.

1.2.8 The provisions of this Contract cannot be amended, modified, varied or waived in any respect except by a Modification. The Contractor is hereby given notice that no person has authority to orally waive, or to release the Contractor from any of the Contractor's duties or obligations under or arising out of this Contract. Any waiver, approval or consent granted by Modification to the Contractor shall be limited to those matters specifically and expressly stated thereby to be waived, approved or consented to and shall not relieve the Contractor of the obligation to obtain any future waiver, approval or consent.

1.2.9 Any material or operation specified by reference to published specifications of a Manufacturer, a society, an association, a code, or other published standard, shall comply with requirements of the listed document which is current on date the Owner received bids for the construction of the Project. In case of a conflict between referenced document and the Specifications, Specifications shall govern. In case of a conflict between such listed documents, the one having more stringent requirements shall govern.

1.2.10 The Contractor, if requested, shall furnish an affidavit from each or any Manufacturer certifying that materials or products delivered to the job meets requirements specified.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 All Drawings, Specifications and copies thereof furnished by the Design Consultant are and shall remain the property of the Owner. They are to be used by Contractor only with respect to the Project and are not to be used by Contractor on any other project. With the exception of one contract set for each party to the Contract, such documents are to be returned or suitably accounted for to the Owner on request at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of Owner's rights or the Design Consultant's common law copyright or other reserved rights.

ARTICLE 2

THE DESIGN CONSULTANT

2.1 DEFINITIONS

2.1.1 The term "Design Consultant" or "A/E" or "Architect" or "Engineer" as used or set forth in the Contract Documents, shall mean the entity and its consultants or agents, or their duly authorized representatives, that is responsible for designing or engineering the Work, and performing the activities specified herein, and in the Agreement for Design Consultant Services, including any

consultants to said entity or firm acting within the scope of their agreements with the Design Consultant. Such firm or agency and its representatives shall act severally within the scope of particular duties entrusted to them, unless otherwise provided for in the Contract Documents or in the Agreement for Design Consultant Services.

2.1.2 The Design Consultant may be identified in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The Design Consultant is further described as and, throughout this document, shall mean one or both of the following:

2.1.2.1 ARCHITECT, a person or other legal entity lawfully licensed to practice architecture in the State wherein the Project is located; or

2.1.2.2 ENGINEER, a person or other legal entity lawfully licensed to practice engineering in the State wherein the Project is located.

2.2 SERVICES OF THE DESIGN CONSULTANT (typ)

2.2.1 The Design Consultant will provide certain services as hereinafter described and further described in the Agreement for Design Consultant Services.

2.2.2 Should errors, omissions, or conflicts in the Drawings, Specifications, or other Contract Documents prepared by or on behalf of the Design Consultant be discovered, the Design Consultant will prepare such amendments or supplementary documents and provide consultation as may be required.

2.2.3 The Design Consultant will visit the site at intervals appropriate to the stage of construction to familiarize itself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. The Design Consultant will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work, but it shall make as many inspections as may reasonably be required to fulfill its obligations to the Owner. On the basis of such on-site observations, the Design Consultant and his consultants shall endeavor to guard the Owner against defects and deficiencies in the Work.

2.2.3.1 The Design Consultant will conduct the construction meetings and shall be responsible for preparing accurate and complete minutes of all such meetings and other Project meetings and distributing same to all participants. The meetings shall be held on a bi-weekly basis. The Design Consultant shall chair the meeting and prepare and distribute minutes of each such meeting to the Contractor and Owner as soon after the meeting as practical, but in any case within seven (7) days of the meeting. The purpose of the meetings will be to review the status of the Project and to address such other matters relating to the Project as an Owner, Design Consultant and Contractor deem appropriate, including remedial actions that may be necessary to ensure required progress and completion in accordance with the construction schedule and Contract time.

2.2.3.2 The Design Consultant shall review construction schedules prepared by the Contractor, as well as coordination of construction performed by separate contractors or by the Owner's own forces, including equipment supplied by the Owner.

2.2.4 The Design Consultant will render written field reports to the Owner in the form required by the Owner relating to the periodic visits and inspections of the Project required by Paragraph

2.2.3.

- 2.2.5 The Design Consultant will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Design Consultant will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any portion of the Work.
- 2.2.6 The Design Consultant and Owner shall at all times have access to the Work wherever it is in preparation or progress. The Contractor shall provide safe facilities for such access so the Design Consultant and Owner may perform their functions under the Contract Documents.
- 2.2.7 As required, the Design Consultant will render to the Owner, within a reasonable time, interpretations concerning the design and other technical aspects of the Work and the Contract Documents.
- 2.2.8 All communications, correspondence, submittals, and documents exchanged between the Design Consultant and the Contractor in connection with the Project shall be through the Owner or in the manner prescribed by the Owner. Further, all communications, correspondence, submittals and documents transmitted from the Owner or Design Consultant will be directed to the Contractor and copied to the Owner or Design Consultant.
- 2.2.9 All interpretations and decisions of the Design Consultant shall be consistent with the intent of and reasonably inferable from the Contract Documents.
- 2.2.10 The Design Consultant's decisions in matters relating to artistic effect will be final if consistent with the intent of the Contract Documents.
- 2.2.11 If the Design Consultant observes any Work that does not conform to the Contract Documents, the Design Consultant shall report this observation to the Owner. The Design Consultant will prepare and submit to the Owner "punch lists" of the Contractor's work, which is not in conformance with the Contract Documents. The Owner will transmit such "punch lists" to the Contractor.
- 2.2.12 The Design Consultant has the authority to condemn or reject any or all of the Work on behalf of the Owner when, in its opinion, the Work does not conform to the Contract Documents. Whenever, in the Design Consultant's reasonable opinion, it is considered necessary or advisable for the implementation of the intent of the Contract Documents, the Design Consultant will have the authority to require special inspection or testing of any portion of the Work in accordance with the provisions of the Contract Documents whether or not such portion of the Work be then fabricated, installed or completed.
- 2.2.13 The Design Consultant will review the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and for general compliance with the Contract Documents. Such action shall be taken within fourteen (14) days of receipt unless otherwise authorized by the Owner.
- 2.2.14 The Owner will establish with the Design Consultant procedures to be followed for review and processing of all Shop Drawings, catalogue submittals, project reports, test reports, maintenance manuals, and other necessary documentation, as well as requests for changes and applications

for extensions of time.

- 2.2.15 The Design Consultant will prepare Change Orders and Construction Change Directives when requested by the Owner.
- 2.2.16 The Design Consultant and the Owner will conduct inspections to determine the dates of Substantial Completion and Final Completion. The Design Consultant will issue a final Certification of Payment.
- 2.2.17 The Design Consultant will prepare one (1) printed copy and one (1) electronic computer file showing significant Changes in the Work made during the construction process, based on neatly and clearly marked-up Drawings, prints, and other data furnished by the Contractor(s) and the applicable Addenda, clarifications and Change Orders which occurred during the Project. The Design Consultant will also provide the Owner assistance in the original operation of any equipment or system such as initial start-up, testing, adjusting, and balancing.
- 2.2.18 In case of the termination of the employment of the Design Consultant, the Owner may appoint a Design Consultant whose status under the Contract Documents shall be that of the former Design Consultant.

ARTICLE 3

OWNER

3.1 DEFINITION

- 3.1.1 The Owner is the person or entity identified as such in the Owner-Contractor Agreement and may be referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the Owner or his authorized representative or agent. The phrase "Owner or its agent" as used in this Agreement, does not include the Separate Contractors or their Subcontractors.

3.2 INFORMATION, SERVICES AND RIGHTS OF THE OWNER

- 3.2.1 The Owner will provide administration of the Contract as herein described. The Design Consultant shall also provide aspects of administration of the Contract as herein described or as specified in the Agreement for Design Consultant Services.
- 3.2.2 The Owner shall at all times have access to the Work whenever it is in preparation or progress. The Contractor shall provide safe facilities for such access.
- 3.2.3 The Owner shall not be responsible for or have control or charge of the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, and will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.
- 3.2.4 The Owner will have authority to require special inspection or testing of portions of the Work to the same extent as the Design Consultant in accordance with Paragraph 2.2.12 whether or not such portion of the Work be then fabricated, installed, or completed. However, neither the Owner's authority to act under Paragraph 3.2.4, nor any decision made by the Owner in good faith either to exercise or not to exercise such authority shall give rise to any duty or

responsibility of the Owner to the Contractor, any Subcontractor, any of their agents or employees, or any other person performing any of the Work.

- 3.2.5 The Owner shall have the authority and discretion to call, schedule, and conduct job meetings to be attended by the Contractor, representatives of his Subcontractors, and the Design Consultant, to discuss such matters as procedures, progress, problems, and scheduling.
- 3.2.5.1 The Contractor is requested and required to attend all scheduled job site progress conferences as called by the Design Consultant. The Contractor shall be represented at these job progress conferences by project personnel authorized by the Contractor to make schedule and financial decision and by project personnel representatives. These meetings shall be open to Subcontractors, Material Suppliers, and any others who can contribute shall be encouraged by the Contractor to attend. It shall be the principal purpose of these meetings, or conferences, to affect coordination, cooperation and assistance in every practical way toward the end of maintaining progress of the Project on schedule and to complete the Project within the specified Contract Time. The Contractor shall be prepared to assist progress of the Work as required in his particular contract and to recommend remedial measures for the correction of progress as may be appropriate. The Design Consultant shall be the coordinator of the conferences and shall preside as chairman.
- 3.2.5.2 If the Project is awarded as a single prime construction contract, the Design Consultant shall determine which, if any, Subcontractors and/or Material Suppliers shall be required to attend weekly job site progress conferences. The Contractor shall comply with this request and the meeting shall be conducted as described in Subparagraph 3.2.5.1.
- 3.2.6 The Owner will establish procedures to be followed for processing all Shop Drawings, catalogues, and other project reports, and other documentation, test reports, and maintenance manuals.
- 3.2.7 The Owner and Design Consultant will review all requests for changes and shall implement the processing of Change Orders, including applications for extension of the Contract Time.
- 3.2.8 The Owner, will not be responsible for the failure of the Contractor to plan, schedule, and execute the Work in accordance with the approved schedule or the failure of the Contractor to meet scheduled Completion Dates or the failure of the Contractor to schedule and coordinate the Work of his own trades and Subcontractors or to coordinate and cooperate with any Separate Contractors.
- 3.2.9 The Owner, in consultation with the Design Consultant, will review and process all Applications for Payment by the Contractor, including the final Application for Payment.
- 3.2.10 The Owner and Design Consultant shall not be responsible or liable to Contractor for the acts, errors or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons performing any of the Work or working on the Project.
- 3.2.11 The Owner shall furnish surveys describing the physical characteristics and legal limitations for the site of the Project, which are in its possession and are relevant to the Work.
- 3.2.12 The Owner shall secure and pay for necessary easements, required for permanent structures or for permanent changes in existing facilities.
- 3.2.13 The Owner shall furnish information or services under the Owner's control with reasonable promptness to avoid unreasonable delay in the orderly progress of the Work.

- 3.2.14 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, copies of Drawings and Specifications in accordance with the Supplemental Conditions.
- 3.2.15 The Owner will make reasonable efforts to make available for the Contractor's reasonable review, at the Owner's offices or together with the Contract Documents, certain boring logs, geotechnical, soils and other reports, surveys and analyses pertaining to the Project site of which the Owner is aware, has in its possession and are relevant to the Work. Any boring logs that are provided to the Contractor are only intended to reflect conditions at the locations of the borings and do not necessarily reflect site conditions at other locations. Any reports, surveys and analyses provided by Owner are for the Contractor's information only, and their accuracy and completeness are not guaranteed or warranted by the Owner or the Design Consultant, and such reports are not adopted by reference into, nor are they part of the Contract Documents. Notwithstanding any factual statement, conclusion, or any language or recommendations contained in such reports, the Contractor assumes full responsibility for inspection of the site and determination of the character, quality and quantity of any soil, surface or subsurface conditions that may be encountered or which may affect the Work, and for the means and methods of construction that he employs when performing the Work.
- 3.2.16 The foregoing rights are in addition to other rights of the Owner enumerated herein and those provided by law.

3.3 OWNER'S RIGHT TO STOP OR TO SUSPEND THE WORK

- 3.3.1 If the Contractor fails to correct defective Work as required by Section 13.2 or fails to carry out the Work or supply labor and materials in accordance with the Contract Documents, the Owner by a written Notice may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.
- 3.3.2 The Owner may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as he may determine to be appropriate for the convenience of the Owner.
- 3.3.3 If the performance of all or any part of the Work (including the work of the Contractor and its Subcontractors) is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Owner or the Design Consultant, or by failure of any one of them to act within the time specified in this Contract (or if no time is specified, within a reasonable time), an adjustment shall be made for an increase in the actual time required for performance of the Work by the Contractor, due solely to such unreasonable suspension, delay, or interruption and the Contract modified in writing accordingly. However, no Claim shall be made under this Paragraph for any suspension, delay, or interruption pursuant to Paragraph 3.4.1, or for which Claim is provided or excluded under any other provision of this Contract. No Claim under this Paragraph shall be allowed on behalf of the Contractor or its Subcontractors, unless within twenty (20) days after the act or failure to act involved, and for continuing or ongoing acts or failures to act within twenty (20) days of the first day of the act or failure to act, the Contractor submits to the Owner a written statement setting forth, as fully as then practicable, the extent of such Claim, and unless the Claim is asserted in writing within thirty (30) days after the termination of such suspension, delay, or interruption. For continuing or ongoing acts or failures to act, the Contractor shall update its written statement every twenty (20) days until the suspension, delay or interruption is terminated. The Contractor shall waive any and all Claims

under this Paragraph 3.3.3 which are not filed in strict conformance with Paragraph 3.3.3. The Contractor shall indemnify, defend and hold the Owner harmless from any Claim by a Subcontractor that is waived because it is not filed in strict conformance with this Paragraph 3.3.3 or any other provision of the Contract regarding Claims.

3.3.4 In the event of a suspension of the Work or delay or interruption of the Work per Paragraph 3.3.3, the Contractor will and will cause his Subcontractors to protect carefully his, and their, materials and Work against damage, loss or injury from the weather and maintain completed and uncompleted portions of the Work as required by the Contract Documents. If, in the opinion of the Owner, any Work or material shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors to so protect same, such Work and materials shall be removed and replaced at the expense of the Contractor.

3.3.5 No Claim by the Contractor under Paragraph 3.3.3 shall be allowed if asserted after final payment under this Contract or if it is not asserted in strict conformance with Paragraph 3.3.3.

3.4 OWNER'S RIGHT TO CARRY OUT THE WORK

3.4.1 If the Contractor defaults or otherwise neglects to carry out the Work in accordance with the Contract Documents and fails within ten (10) days after the date written Notice is given by the Owner, with a copy of such Notice sent to the Contractor's Surety, to commence and continue remedy of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedy he may have, make good such deficiencies and may further elect to complete all Work thereafter through such means as the Owner may select, including the use of a new contractor pursuant to Paragraph 3.4.2. In such case, the Owner shall provide Notice to the Contractor's Surety and an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Design Consultant's additional services made necessary by such default, neglect or failure and any other damages suffered by Owner as a result of Contractor's breach, including but not limited to Owner's reasonable attorney's fees and litigation costs and expenses. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor or its Surety shall pay the difference to the Owner. Notwithstanding the Owner's right to carry out a portion of the Work, warranty, maintenance and protection of the Work remains the Contractor's and Surety's responsibility. Further, the provisions of this Paragraph do not affect the Owner's right to require the correction of defective or non-conforming Work in accordance with Section 13.2.

3.4.2 Whenever the Contractor shall be, and declared by the Owner to be in default under the Contract, the Owner having substantially performed Owner's obligations thereunder, the Surety shall promptly remedy the default, or shall be liable to Owner for damages pursuant to the Performance Bond and as provided by law. Any action by Surety or by Owner against the Surety shall not relieve Contractor of its duties, responsibilities and liabilities to Owner pursuant to the Contract or as allowed by law.

ARTICLE 4

CONTRACTOR

4.1 DEFINITION

- 4.1.1 The Contractor is the person or organization identified as such in the Owner-Contractor Agreement and may be referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative, who shall have authority to bind the Contractor in all matters pertinent to the Contract.
- 4.1.2 The Contract is not one of agency by the Contractor for Owner but one in which Contractor is engaged independently in the business of providing the services and performing the Work herein described as an independent contractor.

4.2 REVIEW OF CONTRACT DOCUMENTS

- 4.2.1 The Contractor represents that prior to executing this Contract, the Contractor carefully reviewed and studied the Contract Documents and notified the Owner and Design Consultant of any errors, inconsistencies or omissions of which the Contractor is aware. The Contractor agrees to continuously and carefully study and compare the Contract Documents after the execution of this Contract and shall at once report to the Owner and Design Consultant any error, inconsistency or omission he may discover, including, but not limited to, any requirement which may be contrary to any law, ordinance, rule, regulation, building code, or order of any public authority bearing on the Work. If the Contractor has reported in writing an error, inconsistency or omission, has promptly stopped the affected Work until otherwise instructed, and has otherwise followed the instructions of the Owner, the Contractor shall not be liable to the Owner or the Design Consultant for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents. The Contractor shall perform no portion of the Work at any time without it being specified in Contract Documents and, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.
- 4.2.2 The Contractor and his Subcontractors shall keep at the site of the Work at least one copy of the Drawings and Specifications and shall at all times give the Owner, the Design Consultant, inspectors, as well as other representatives of the Owner access thereto.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

- 4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for and have control over all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.
- 4.3.1.1 It shall be the Contractor's responsibility to schedule the Work; to maintain a progress schedule for the Project; and to notify the Design Consultant and the Owner of any changes in the progress schedule. He shall be responsible for providing adequate notice to all Subcontractors to insure efficient continuity of all phases of the Project. The Contractor is responsible for keeping the Owner and Design Consultant fully informed as to the work progress, including immediate notification of any work progress changes.
- 4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and Sub-subcontractors, Suppliers, their agents and employees, and other

persons performing any of the Work and for their compliance with each and every requirement of the Contract Documents, in the same manner as if they were directly contracted by the Contractor.

- 4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the acts, failures to act or duties of the Owner or the Design Consultant in their administration of the Contract, or by inspections, tests or approvals (or the lack thereof) required or performed under Section 7.6 by persons other than the Contractor.
- 4.3.4 Before starting a section of the Work, the Contractor shall carefully examine all preparatory work that has been executed to receive his work to see that it has been completed in accordance with the Contract Documents. He shall check carefully, by whatever means are required, to ensure that his work and adjacent, related work will finish to proper and required standards for quality, contours, planes, and levels.
- 4.3.5 The Contractor understands and agrees that the Owner and Design Consultant will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and they will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Owner and the Design Consultant will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any of the Work.
- 4.3.6 The Contractor shall not use or provide Subcontractor equipment, materials, methods or persons to which Owner and Design Consultant have a reasonable objection and shall remove no portion of the Work or stored materials from the site of the Work, except for defective Work the Contractor may be required to replace or repair as set forth herein.
- 4.3.7 The Contractor shall verify all grades, lines, levels and dimensions as indicated and shown on the Drawings and in the Specifications prior to beginning any portion of the Work and shall immediately report in writing any errors or inconsistencies to the Design Consultant before commencing that portion of the Work.

4.4. CONTRACTOR'S REPRESENTATIONS

- 4.4.1 By entering into this Contract with the Owner, the Contractor represents and warrants the following, together with all other representations and warranties in the Contract Documents:
- .1 That he is experienced in and competent to perform the type of work required and to furnish the Subcontractors, materials, supplies, equipment and services to be performed or furnished by him;
 - .2 That he is financially solvent, able to pay his debts as they mature, and possessed of sufficient working capital to initiate and complete the Work required under the Contract;
 - .3 That he is familiar with all Federal, State, County, municipal and department laws, ordinances, permits, regulations, building codes and resolutions which may in any way affect the Work or those employed therein, including but not limited to any special laws or regulations relating to the Work or any part thereof;
 - .4 That such temporary and permanent Work required by the Contract Documents will be

satisfactorily constructed and fit for use for its intended purpose and that such construction will not injure any person, or damage any property;

- .5 That he has carefully examined the Contract Documents and the site of the Work and that from his own investigations, he has satisfied himself and made himself familiar with: (1) the nature and location of the Work; (2) the character, quality and quantity of surface and subsurface materials likely to be encountered, including, but not limited to, all structures and obstructions on or at the Project site, both natural and man-made; (3) the character of equipment and other facilities needed for the performance of the Work; (4) the general and local conditions including without limitation its climatic conditions, the availability and cost of labor and the availability and cost of materials, tools and equipment; (5) the quality and quantity of all materials, supplies, tools, equipment, labor and professional services necessary to complete the Work in the manner required by the Contract Documents; and (6) all other matters or things which could in any manner affect the performance of the Work;
- .6 That he will fully comply with all requirements of the Contract Documents;
- .7 That he will perform the Work consistent with good workmanship, sound business practice, and in the most expeditious and economical manner consistent with the best interests of the Owner;
- .8 That he will furnish efficient business administration and experienced project management and supervision, and an adequate supply of workers, equipment, tools and materials at all times;
- .9 That he has carefully reviewed the Work required and that the Work can be planned and executed in a normal and orderly sequence of Work and reasonably scheduled so as to ensure completion of the Work in accordance with the Contract Documents, allowing for normal and reasonably foreseeable weather, labor and other delays, interruptions and disruptions of the Work;
- .10 That he will complete the Work within the Contract Time and all portions thereof within any required Completion Dates;
- .11 That his Contract Sum is based upon the labor, materials, systems and equipment required by the Contract Documents, without exception;
- .12 That he will make a good faith effort to utilize Historically Underutilized Businesses (HUB's) per N.C. Gen. Stat. 143-128.2, and as described in the construction documents; and
- .13 That he will coordinate construction activities to ensure that operations are carried out with due consideration given to conservation of energy, water and materials.

4.5 LABOR AND MATERIALS

- 4.5.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, supplies, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary or proper for or incidental to the execution and completion of the Work required by and in accordance with the Contract Documents and any applicable code or statute, whether specifically required by the

Contract Documents or whether their provision may reasonably be inferred as necessary to produce the intended results, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Final payment will not be made until the Work is so completed and Contractor has otherwise complied with the Contract Documents in full.

4.5.2 The Contractor shall at all times enforce strict discipline and good order among his employees and Subcontractors performing any of the Work and shall not employ or contract with on the Work any unfit person or entity or anyone not skilled in the task assigned to him. The Owner may, by Notice, require the Contractor to remove from the Work any employee or employee of a Subcontractor performing any of the Work, that the Owner deems incompetent, careless or otherwise objectionable.

4.5.3 The Contractor shall be responsible for ensuring that the Work is completed in a skillful and workmanlike manner.

4.5.4 All equipment, apparatus and/or devices of any kind to be incorporated into the Work that are shown or indicated on the Drawings or called for in the Specifications or required for the completion of the Work shall be entirely satisfactory to the Owner and the Design Consultant as regards operations, capacity and/or performance. No approval, either written or verbal, of any drawings, descriptive data or samples of such equipment, apparatus and/or device shall relieve the Contractor of his responsibility to turn over the same in good working order for its intended purpose at the completion of the Work in complete accordance with the Contract Documents. Any equipment, apparatus and/or device not fulfilling these requirements shall be removed and replaced by proper and acceptable equipment, etc. or put in good working order satisfactory to the Owner and Design Consultant without additional cost to the Owner.

4.6 WARRANTY

4.6.1 The Contractor warrants to the Owner and the Design Consultant that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all workmanship will be in accordance with generally accepted industry standards, free from faults and defects and in conformance with the Contract Documents and all other warranties and guaranties specified therein. Where no standard is specified for such workmanship or materials, they shall be the best of their respective kinds. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Owner or the Design Consultant, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Article 13.

4.6.2 The Contractor will be required to complete the Work specified and to provide all items needed for construction of the Project, complete and in good order.

4.6.3 The warranties set forth in this Section 4.6 and elsewhere in the Contract Documents shall survive Final Completion of the Work under Section 9.9.

4.6.4 The Contractor guarantees and warrants to the Owner all Work as follows:

- .1 That all materials and equipment furnished under this Contract will be new and the best of its respective kind unless otherwise specified;
- .2 That all Work will be in accordance with generally accepted industry standards and free of omissions and faulty, poor quality, imperfect and defective material or workmanship;

- 3 That the Work shall be entirely watertight and leak proof in accordance with all applicable industry customs and practices, and shall be free of shrinkage and settlement;
 - 4 That the Work, including but not limited to, mechanical and electrical machines, devices and equipment, shall be fit and fully usable for its intended and specified purpose and shall operate satisfactorily with ordinary care;
 - 5 That consistent with requirements of the Contract Documents, the Work shall be installed and oriented in such a manner as to facilitate unrestricted access for the operation and maintenance of fixed equipment;
 - 6 That the Work will be free of abnormal or unusual deterioration which occurs because of poor quality materials, workmanship or unsuitable storage; and
 - 7 That the products or materials incorporated in the Work will not contain asbestos.
- 4.6.5 All Work not conforming to guarantees and warranties specified in the Contract Documents, including substitutions not properly approved and authorized, may be considered defective. If required by the Design Consultant or Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- 4.6.5.1 The Contractor will submit a written affidavit certifying that none of the materials incorporated in the Project contain asbestos.
- 4.6.6 If, within one (1) year after the date of Substantial Completion of the Work or designated portion thereof as defined in Paragraph 8.1.3 or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective, not in accordance with the Contract Documents, or not in accordance with the guarantees and warranties specified in the Contract Documents, the Contractor shall correct it within five (5) working days or such other period as mutually agreed, after receipt of Notice from the Owner to do so. The Owner shall give such Notice with reasonable promptness after discovery of the condition. For items that remain incomplete or uncorrected on the date of Substantial Completion, the one (1) year warranty shall begin on the date of Final Completion of the Work or upon correction of the defective Work.
- 4.6.6.1 The Contractor further warrants that for a period of twenty-four (24) months following the date of Substantial Completion that the building shall be watertight and leak free in every area. The Contractor shall, immediately upon notification by the Owner of water infiltration, determine the source of the water infiltration and, at the Contractor's own expense, do any work necessary to make the building watertight. The Contractor shall also, at the Contractor's own expense, repair or replace any other damaged material to return the building to its original accepted condition.
- 4.6.6.2 In the event Substantial Completion is achieved in stages, all applicable warranties will begin on the date the last portion of the Project achieved Substantial Completion.
- 4.6.7 If at any time deficiencies in the Work are discovered which are found to have resulted from fraud or misrepresentation, or an intent or attempt to or conspiracy to defraud the Owner by the Contractor, any Subcontractor or Supplier, the Contractor will be liable for replacement or correction of such Work and any damages which Owner has incurred related thereto, regardless of the time limit of any guarantee or warranty.

- 4.6.8 Any materials or other portions of the Work, installed, furnished or stored on site which are not of the character or quality required by the Specifications, or are otherwise not acceptable to the Design Consultant or the Owner, shall be immediately removed and replaced by the Contractor to the satisfaction of the Design Consultant and Owner, when notified to do so by the Design Consultant or Owner.
- 4.6.9 If the Contractor fails to correct defective or non-conforming Work as required by Paragraph 4.6.6, or if the Contractor fails to remove defective or non-conforming Work from the site, as required by Paragraph 4.6.8, the Owner may elect to either correct such Work in accordance with Section 3.4 or remove and store materials and equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, the Owner may upon ten (10) additional days written Notice sell such Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Design Consultant's additional services and Owner's reasonable attorney's fees made necessary thereby. If such proceeds of sale do not cover all costs, which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.
- 4.6.9.1 If the Contractor, after notice, fails within 48 hours to develop and transmit a proposed plan of remedial action to the Design Consultant and Owner for correction of warranty items, and/or fails to proceed within three (3) days to commence corrective measures of warranty items in compliance with the terms of the warranty/guarantee, the Owner may have the defects corrected and the Contractor and surety shall be liable for all expense incurred.
- 4.6.10 The Contractor shall bear the cost of making good all of the Work of the Owner, Separate Contractors or others, destroyed or damaged by such correction or removal required under this Article 4, Article 13 or elsewhere in the Contract Documents.
- 4.6.11 In the event the manufacturer does not have a suitable written warranty form to fully cover the guarantee requirements as set forth in the Specifications, the Contractor shall arrange for the manufacturer to provide a written warranty in such form as shall fully document the guarantee set forth in the Specifications.
- 4.6.12 The Contractor shall provide to the Owner all material, equipment, or other special warranties required by the Contract Documents within thirty (30) days after the date of Substantial Completion. All warranties shall be issued in the name of the Owner, or shall be transferable to the Owner, shall be in a form satisfactory to the Owner, and shall commence in accordance with Article 4.6.
- 4.6.13 The warranties contained herein shall not limit the Contractor's responsibility for the correction of defective or deficient work on the Project.

4.7 TAXES

- 4.7.1 The Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted at the time the Owner received bids for the construction of the Project, whether or not yet effective.
- 4.7.2 Sales and Use Tax. Contractor shall be responsible for complying with any applicable sales and

use tax obligations imposed by Chapter 105, Article 5 of the North Carolina General Statutes. Where Contractor has been contracted with to oversee "new construction" or "reconstruction" as defined in G.S. 105-164.4H, Contractor shall be responsible for issuing and maintaining an Affidavit of Capital Improvement.

4.8 PERMITS, FEES AND NOTICES

- 4.8.1 The Owner shall be responsible for fees associated with permits and approval of the Drawings including but not limited to building permit, utility impact fees, stormwater permit and driveway permit.
- 4.8.2 The Contractor is responsible for all fees, permits and other costs associated with temporary utilities, including but not limited to installation, use, disconnection, removal and/or relocation.
- 4.8.3 The Contractor will pay for his own license, inspection and re-inspection fees for the proper execution and completion of the Work.
- 4.8.4 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work, including but not limited to all applicable building codes. If Contractor believes that any part of the Drawings or Specifications are inconsistent with applicable laws, rules, regulations, lawful orders of public authorities or building codes, Contractor shall Notify the Owner and Design Consultant of such inconsistencies immediately.

4.9 ALLOWANCES

- 4.9.1 The Contractor shall include in the Contract Sum all Allowances stated in the Contract Documents. Items covered by these Allowances shall be supplied for such amount and by such persons as the Owner may direct, but the Contractor will not be required to employ persons against whom he makes a reasonable objection.
- 4.9.2 Unless otherwise provided in the Contract Documents:
- .1 Allowances for Work: These allowances shall cover the cost to the Contractor for the materials and equipment required by the allowance delivered at the site, all applicable taxes, unloading, uncrating and storage, protection from elements, labor, installation and finishing and other expenses required to complete the installation, and a fixed percentage for overhead and profit as defined in Article 12.
 - .2 Allowances for Products/Materials: Allowance includes the cost of the product, delivery to the site and applicable taxes. The Contractor's costs for unloading and handling on the site, labor, installation, overhead, profit and other expenses contemplated for the material allowance shall be included in the Contract Sum and not in the allowance;
 - .3 Whenever the cost is more than or less than the Allowance, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expense.

4.10 SUPERINTENDENT

- 4.10.1 The Contractor shall employ, and have approved by the Owner, a competent superintendent and

necessary assistants who shall be in attendance at the Project site during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. If the Contractor employs more than a single individual in this role, the Owner shall be provided an organizational chart and personnel listing for the staff performing the functions of a superintendent. In such event, all references to the superintendent elsewhere in the Contract Documents shall mean the staff performing the functions of a superintendent.

- 4.10.2 The superintendent shall be in attendance at the Project site not less than eight (8) hours per day, five (5) days per week, unless the job is closed down due to conditions beyond the control of the Contractor or until termination of the Contract in accordance with the Contract Documents. It is understood that such superintendent shall be acceptable to the Owner and shall be the one who will be continued in that capacity for the duration of the Project, unless he ceases to be on the Contractor's payroll or the Owner otherwise agrees. The superintendent shall not be employed on any other project for or by Contractor or any other entity during the course of the Work.

4.11 PROGRESS SCHEDULE

- 4.11.1 The Contractor shall prepare and submit to the Owner for the Owner's review and approval an estimated progress schedule for the Work. The estimated project schedule shall be submitted within 10 days of being awarded the Project by the Owner.

- 4.11.2 The Contractor shall provide a project Critical Path Method (CPM) Construction Schedule in an electronic format for the entire Project. The schedule will be in such format as directed by Owner and Design Consultant. The Project schedule will be reviewed/updated on at least a monthly basis. The schedule will be utilized for monitoring the progress of the Project. The schedule will contain the Schedule of Values to be used as a basis for reviewing the amount of monthly progress payments to be made to the Contractor. The CPM schedule shall be submitted and approved prior to the Design Consultant's approval of any Applications for Payment, except for the reimbursement of the Contractor's cost for bonds and insurance.

4.12 RESPONSIBILITY FOR COMPLETION

- 4.12.1 The Contractor shall furnish such manpower, materials, facilities and equipment and shall work within the normal scheduled working hours to ensure the performance of the Work within the Completion Dates specified in the Owner-Contractor Agreement. If for any reason the Contractor must work outside of the normal scheduled working hours, a custodian employed by the Owner is required to be in attendance when accessing the work area. The Contractor agrees to reimburse the Owner for such custodian's time. The reimbursement is due with the subsequent payment application.

- 4.12.2 If it becomes apparent to the Design Consultant or Owner that the Work will not be completed within required Completion Dates, the Contractor agrees to undertake some or all of the following actions, at no additional cost to the Owner, in order to ensure, in the opinion of the Design Consultant and Owner, that the Contractor will comply with all Completion Date requirements:

- .1 Increase manpower, materials, crafts, equipment and facilities;
- .2 Increase the number of working hours per shift, shifts per working day, working days per week, or any combination of the foregoing, including but not limited to night shifts,

overtime operations and Sundays and holidays;

- 3 Reschedule activities to achieve maximum practical concurrence of accomplishment of activities;
 - 4 Require that his superintendent be at the Project site not less than ten (10) hours per day, six (6) days per week; and
 - 5 Reimburse the Owner in accordance with Paragraph 4.12.1 above for all work performed outside of the normal scheduled work hours.
- 4.12.3 In undertaking the actions required under Paragraph 4.12.1, Contractor shall prepare and adhere to a recovery schedule if the Project is behind schedule by four (4) or more days.
- 4.12.4 If the actions taken by the Contractor are not satisfactory, the Design Consultant or Owner may direct the Contractor to take any and all actions necessary to ensure completion within the required Completion Dates, without additional cost to the Owner. In such event, the Contractor shall continue to assume responsibility for his performance and for completion within the required dates.
- 4.12.5 If, in the opinion of the Design Consultant or Owner, the actions taken by the Contractor pursuant to this Article or the progress or sequence of the Work are not accurately reflected on the construction schedule, the Contractor shall revise such schedule to accurately reflect the actual progress and sequence of the Work. The Contractor shall perform the Work in general accordance with the most recent schedule approved by the Owner and Design Consultant.
- 4.12.6 Failure of the Contractor to substantially comply with the requirements of this Article, may be considered grounds for a determination by the Owner, pursuant to Article 14, that the Contractor is failing to prosecute the Work with such diligence as will ensure its completion within the time specified.
- 4.12.7 The Owner may, at its sole discretion and for any reason, other than due to the fault of Contractor require the Contractor to accelerate the Work by providing overtime, Saturday, Sunday and/or holiday work and/or by having all or any Subcontractors designated by the Owner provide overtime, Saturday, Sunday, and/or holiday work. In the event that the Owner requires such acceleration a Change Order shall be issued in accordance with Article 12.
- 4.12.8 This Section 4.12 does not eliminate the Contractor's responsibility to comply with the local noise ordinances, all highway permit requirements and all other applicable laws, regulations, rules, ordinances, resolutions, and permit requirements.

4.13 DOCUMENTS AND SAMPLES AT THE SITE

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

4.14 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- 4.14.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the

Work by the Contractor or any Subcontractor, Manufacturer, Supplier or distributor to illustrate some portion of the Work.

- 4.14.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.
- 4.14.3 Samples are physical examples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.
- 4.14.4 Manuals are manufacturer's installation, start-up, operating, and maintenance and repair instructions together with parts lists, pictures, sketches and diagrams, which set forth the manufacturer's requirements for the benefit of the Contractor and the Owner.
- 4.14.5 The Contractor shall prepare or have prepared at its expense and shall review, indicate approval thereupon, and submit, with reasonable promptness and in such sequence as to cause no delay in the Work or in the other work of the Owner or any Separate Contractor, all Shop Drawings, Product Data, Manuals and Samples required by the Contract Documents.
- 4.14.5.1 Unless otherwise directed in writing, the Contractor shall submit one (1) copy of each Shop Drawing, Product Data, or Manuals to the Design Consultant. Routing of said submittals will be from the Contractor to the Design Consultant with a copy of the transmittal to the Owner. The Design Consultant will return one (1) copy of the reviewed submittal to the Contractor.
- 4.14.5.2 Where the Contract calls for the submittal of manufacturer's data to the Design Consultant for information only, such submittals shall be made before the commencement of any portion of the Work requiring such submission. Work performed without benefit of approved Shop Drawings for any portion of the Work is subject to removal and replacement at no cost to the Owner.
- 4.14.5.3 For standard manufactured items not requiring special Shop Drawings for manufacture, Contractor shall submit one (1) copy of Manufacturer's catalogue sheets showing illustrated cuts of item to be furnished, scale details, sizes, dimensions, performance characteristics, capacities, wiring diagrams and controls, and all other pertinent information. One (1) copy of reviewed submissions will be returned to the Contractor.
- 4.14.5.4 Unless otherwise directed in writing, all other Shop Drawings, Contractor shall submit one (1) legible copy of each drawing. Each drawing shall have a clear space for stamps. When phrase "by others" appears on Shop Drawings, the Contractor shall indicate on the Shop Drawing who is to furnish material or operations so marked before submittal. When the Shop Drawings are checked "revise and resubmit", the Contractor shall make corrections and submit new copies for review. The Shop Drawings shall contain the Contractor's "approval" and corrections.
- 4.14.5.5 For use of all trades, the Contractor shall provide such number of Shop Drawings as is required for field distribution.
- 4.14.5.6 The Design Consultant will review submittals and make marks to indicate corrections or revisions required and will stamp each submittal with an action stamp and will mark the stamp with the action required by the Contractor.

- 4.14.5.7 Contractor shall submit names of proposed Manufacturers, Material Suppliers, dealers, who are to furnish materials, fixtures, appliances or other fittings for approval as early as possible, to afford proper investigation and checking.
- 4.14.5.8 Transactions with manufacturers, or Subcontractors, shall be through Contractor.
- 4.14.5.9 Unless otherwise specified, Contractor shall submit samples in duplicate of adequate size showing quality, type, color range, finish, and texture as indicated in the Specifications.
- 4.14.5.10 Where Specifications require manufacturer's printed installation instructions, Contractor shall submit duplicate copies of such instructions for approval.
- 4.14.5.11 When several materials are specified by name for one use, Contractor shall select for use any of those so specified.
- 4.14.5.12 Whenever item or class of material is specified exclusively by trade name, manufacturer's name, or by catalogue reference, Contractor shall use only such item, unless written approval for substitution is secured, as outlined in the Specifications and in Section 4.15 of the General Conditions.
- 4.14.5.13 Contractor shall not order materials until receipt of written approval. Contractor shall furnish materials equal in every respect to approved samples.
- 4.14.6 By approving and submitting Shop Drawings, Product Data, Manuals and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instructions pertaining to Shop Drawings, which may be issued by the Design Consultant.
- 4.14.6.1 Parts and details not fully indicated on the Drawings shall be detailed by the Contractor in accordance with standard engineering practice. Dimensions on the Drawings, as well as detailed drawings themselves are subject in every case to measurements of existing, adjacent, incorporated and completed, which shall be taken by the Contractor before undertaking any Work dependent on such data.
- 4.14.7 The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Design Consultant's review of Shop Drawings, Product Data, Samples or Manuals under Paragraph 2.2.14 unless the Contractor has specifically informed the Design Consultant in writing of such deviation at the time of submission and the Design Consultant has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility to Owner for errors or omissions in the Shop Drawings, Product Data, Samples, or Manuals by virtue of the Design Consultant's review or approval thereof.
- 4.14.8 The Contractor shall make corrections required by the Design Consultant and shall resubmit the required number of corrected copies of Shop Drawings or new Product Data or Samples. The Contractor shall direct specific attention, in writing on resubmitted Shop Drawings, Product Data or Samples or Manuals, to revisions other than those requested by the Design Consultant on previous submittals. Re-submittals necessitated by required corrections due to Contractor's errors or omissions shall not be cause for extension of Contract Time or an increase in the Contract Sum.

- 4.14.8.1 No portion of the Work requiring submission of Shop Drawings, Product Data, Samples or Manuals shall be commenced until the submittal has been approved by the Design Consultant as provided in Article 2. All such portions of the Work shall be in accordance with approved submittals.
- 4.14.9 Shop Drawings, Product Data and Samples shall be dated and shall bear the name of the Project; a description or the names or equipment, materials and items; and complete identification of locations at which materials or equipment are to be installed. Shop Drawings shall be stamped and signed stating that the Contractor has determined and verified all materials, field measurements, and field construction criteria related thereto and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- 4.14.10 Submittals of Shop Drawings, Product Data, Samples or Manuals shall be accompanied by a transmittal letter, in duplicate, containing the name of the Project, the Contractor's name, the number of Shop Drawings, Product Data, Samples, or Manuals, identification of Specification section and other pertinent data.

4.15 EQUAL PRODUCTS AND SUBSTITUTIONS

- 4.15.1 All materials, supplies and articles furnished under the Contract shall, whenever specified and otherwise practicable, be the standard products of recognized, reputable manufacturers. Unless otherwise specifically provided in the Contract Documents, the naming of a certain brand, make, manufacturer or article, device, product, material, fixture or type of construction shall convey the general style, type, character and standard of quality of the article desired and shall not be construed as limiting competition. The Contractor, in such cases, may with Owner's written approval, use any brand, make, manufacturer, article, device, product, material, fixture, form or type of construction which in the judgment of the Design Consultant is equal to that specified. An item may be considered equal to the item so named or described if, in the opinion of the Owner and Design Consultant (1) it is at least equal in quality, durability, appearance, strength, and design; (2) it will perform at least equally the specific function imposed by the general design for the Work being contracted for or the material being purchased; and (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the Specifications. Approval by the Owner and Design Consultant will be granted based upon considerations of quality, workmanship, economy of operation, suitability for the purpose intended, warranty and acceptability for use on the Project.
- 4.15.2 To obtain such approval on makes or brands of material other than those specified in Contract Documents, and not previously approved at the time the Owner received bids for the construction of the Project, the Contractor's request for approval of any substitution shall include:
- .1 Complete data substantiating compliance of the proposed substitution with the Contract Documents;
 - .2 Product identification including manufacturers' name, address, and phone number;
 - .3 Manufacturer's literature showing complete product description, performance and test data, and all reference standards;
 - .4 Samples and colors in the case of articles or products;

- .5 Names and addresses of similar projects on which the product was used and date of installation;
- .6 For construction methods, include a detailed description for the proposed method and drawings illustrating same;
- .7 Itemized comparison of proposed substitution with product or method specified and any cost reduction, which shall benefit the Owner;
- .8 Accurate cost data on proposed substitution in comparison with product or method specified;
- .9 All directions, specifications, and recommendations by manufacturers for installation, handling, storing, adjustment, and operation; and
- .10 Item by item comparison of characteristics of substitution item with those items specified.

4.15.3 The Contractor shall also submit with his request for approval a sworn and notarized statement which shall include all of the following representations by the Contractor, namely that:

- .1 He has investigated the proposed product or method and determined that it is equal or better in all respects to that specified and that it fully complies with all requirements of the Contract Documents;
- .2 He will meet all contract obligations with regard to this substitution;
- .3 He will coordinate installation of accepted substitutions into the Work, making all such changes and any required schedule adjustments, at no additional cost to the Owner, as may be required for the Work to be complete in all respects;
- .4 He waives all Claims for additional costs and additional time related to substitutions, which consequently become apparent. He also agrees to hold the Owner harmless from Claims for extra costs and time incurred by other Subcontractors and suppliers, or additional services which may have to be performed by the Design Consultant, for changes for extra work that may, at some later date, be determined to be necessary in order for the Work to function in the manner intended in the Contract Documents;
- .5 He will provide the same warranty and guarantee, and perform any work required in accordance therewith, for the substitution that is applicable to the specified item for which the substitution is requested;
- .6 Material will be installed, handled, stored, adjusted, tested, and operated in accordance with the manufacturers' recommendation and as specified in the Contract Documents.
- .7 In all cases new materials will be used unless this provision is waived by Notice from the Owner or his Design Consultant, or unless otherwise specified in the Contract Documents;
- .8 All material and workmanship will be in every respect in accordance with that which, in the opinion of the Owner or Design Consultant, is in conformity with approved modern practice; and

.9 He has provided accurate cost data on the proposed substitution in comparison with the product or method specified.

4.15.4 Subject to the provisions of any applicable laws, approval for substitutions or equal products shall be at the sole discretion of the Owner, shall be in writing to be effective, and the decision of the Owner shall be final. The Owner or Design Consultant may require tests of all materials proposed for substitution so submitted to establish quality standards, at the Contractor's expense. After approval of a substitution, if it is determined that the Contractor submitted defective information or data regarding the substitution upon which Owner's approval was based, and that unexpected or unanticipated extensive redesign or rework of the Project will be required in order to accommodate the substitution, or that the substituted item will not perform or function as well as the specified item for which substitution was requested, the Contractor will be required to furnish the original specified item or obtain approval to use another substitution; the Contractor shall pay all costs, expenses or damages associated with or related to the unacceptability of such a substitution and the resultant utilization of another item and no time extension shall be granted for any delays associated with or related to such substitution.

4.15.5 If a substitution is approved, no further change in brand or make will be permitted unless satisfactory, written evidence is presented to and approved by the Owner that the manufacturer cannot make scheduled delivery of the approved substituted item. The Owner will not consider substitutions for approval if:

- .1 The proposed substitution is indicated or implied on the Contractor's Shop Drawing or product data submittal and has not been formally submitted for approval by the Contractor in accordance with the above-stated requirements, or
- .2 Acceptance of the proposed substitution will require substantial design revisions to the Contract Documents or is otherwise not acceptable to the Owner and Design Consultant.

4.15.6 Except as otherwise provided for by the provisions of any applicable laws, the Contractor shall not have any right of appeal from the decision of the Owner rejecting any materials submitted if the Contractor fails to obtain the approval for substitution under this Article.

4.16 USE OF SITE

4.16.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits, easements, right-of-way agreements and within the limits of construction as shown on the Contract Documents. The Contractor shall not unreasonably encumber the site, in the opinion of the Owner, with any materials, equipment or trailers nor shall he block the entrances or otherwise prevent reasonable access to the site, other working and parking areas, completed portions of the Work and/or properties, storage areas, areas of other facilities that are adjacent to the worksite. If the Contractor fails or refuses to move said material, equipment or trailers within twenty four (24) hours of notification by the Owner, to so do, the Owner shall have the right, without further notice, to remove, at the Contractor's expense, any material, equipment and/or trailers which the Owner deems are in violation of this Paragraph.

4.16.2 The Project, as school property, may attract children and unauthorized personnel. Contractor shall take all necessary precautions to secure the Project and his Work to prevent injury and to discourage entry onto the Project by children and unauthorized personnel.

4.16.3 Unless specifically authorized or shown in the plans and specifications for the Project, the Contractor shall not use Owner's facilities and shall plan and schedule its Work so as to not

interrupt or interfere with school operations or activities.

- 4.16.4 The Contractor shall maintain streets, parking areas and sidewalks around the Project site free from any materials or debris resulting from the Work. The Contractor shall remove all spillage and tracking of materials arising from the performance of the Work from such areas and any other affected areas, and shall establish a regular maintenance program of sweeping and hosing to minimize accumulation of dirt, dust and materials upon such areas.
- 4.16.5 Only materials and equipment that are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall ensure that at all times the Work is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the Project site and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent of the site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.
- 4.16.6 Without limitation of any other provision of the Contract Documents, the Contractor shall minimize any interference with the occupancy or beneficial use of any areas, buildings or facilities on or adjacent to the site of the Work which are occupied or are being used by Owner. To the extent that owner allows Work to be performed in or around occupied buildings or facilities that are not within the limits of construction, it shall be scheduled to be performed at night, during weekends or holidays at no additional cost to Owner, and the facility or building shall be clean and ready for Owner's use during Owner's hours of normal operation. Without prior approval of the Owner, the Contractor shall not permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and parking areas other than those designated by the Owner.
- 4.16.7 The Contractor and any entity for whom the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner, which may be withheld in the sole discretion of the Owner.
- 4.16.8 The Contractor shall comply with all insurance requirements applicable to use and occupancy of the Project site or any buildings on the Project site.

4.17 CUTTING AND PATCHING OF WORK

- 4.17.1 The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly and in accordance with the Contract Documents.
- 4.17.2 The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any Separate Contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any Separate Contractor except with the written consent of the Owner and of such Separate Contractor. The Contractor shall not unreasonably withhold from the Owner or any Separate Contractor his consent to cutting or otherwise altering the Work. The Owner shall not be required to accept work with a cut, splice, or patch when such cut, splice or patch is not generally accepted practice for the particular work involved or is otherwise unworkmanlike in the opinion of the Design Consultant or the Owner.

- 4.17.3 Existing structures and facilities including but not limited to building, utilities, topography, streets, curbs, walks, etc., that are damaged or removed due to required excavations or other construction work, shall be patched, repaired or replaced by the Contractor to satisfaction of the Design Consultant and the Owner of such structures and facilities and authorities having jurisdiction. In event the local jurisdictional authorities require that such repairing and patching be done with their own labor and materials, the Contractor shall abide by such regulations and pay for such work with no increase in the Contract Sum.

4.18 CLEANING UP

- 4.18.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work and before final payment is made, he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials.
- 4.18.2 If the Contractor fails to clean up during or at the completion of the Work, the Owner may do so as provided in Section 6.3 and the cost thereof shall be charged to the Contractor.

4.19 COMMUNICATIONS

- 4.19.1 All communications from the Contractor relating to the Contract Documents or the construction schedule will be directed to the Design Consultant and copied to the Owner. Similarly, all correspondence from the Owner or Design Consultant will be directed to the Contractor and copied to the Owner or Design Consultant.

4.20 ROYALTIES AND PATENTS

- 4.20.1 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights arising out of the Work and shall save the Owner harmless from loss on account thereof. The Contractor shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Design Consultant. However, if the infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss, unless the information is promptly furnished to the Design Consultant.

4.21 INDEMNIFICATION

- 4.21.1 To the fullest extent permitted by law, the Contractor shall, at its sole cost and expense, indemnify, defend, and hold harmless the Owner and its agents, representatives, and employees from and against all claims, actions, judgments, costs, liabilities, penalties, damages, losses and expenses, including but not limited to attorneys' fees, arising out of and/or resulting from the performance of the Work, provided that any such claim, action, judgment, cost, liability, penalty, damage, loss or expense is caused by any negligent act, error or omission of the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be legally liable. The above obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Section 4.21.1. The parties agree that this indemnification clause is an "evidence of indebtedness" for purpose of N.C. Gen. Stat. § 6-21.2. The parties also specifically acknowledge that the Owner is a public body and it is the

intent of the parties that the Owner not incur any expenses when the Contractor is solely responsible for the claims.

4.21.2 In any and all claims against the Owner or the Design Consultant or any of their agents, representatives, or employees by any employee of the Contractor, any Subcontractor, 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 Section 4.21 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

4.21.3 No provision of this Section 4.21 shall give rise to any duties on the part of the Design Consultant or the Owner, or any of their agents, representatives, or employees.

4.22 PERSONS AUTHORIZED TO SIGN DOCUMENTS

4.22.1 The Contractor, within five (5) days after the earlier of the date of a Notice to Proceed or the date of the Owner-Contractor Agreement, shall file with the Owner a list of all persons who are authorized to sign documents such as contracts, certificates, and affidavits on behalf of the Contractor and to fully bind the Contractor to all the conditions and provisions of such documents, except that in the case of a corporation he shall file with the Owner a certified copy of a resolution of the Board of Directors of the corporation in which are listed the names and titles of corporation personnel who are authorized to sign documents on behalf of the corporation and to fully bind the corporation to all the conditions and provisions of such documents.

4.23 CONDITIONS AFFECTING THE WORK

4.23.1 The Contractor shall be responsible for taking all steps necessary to ascertain the nature and location of the Work and the general and local conditions that can affect the Work or the cost thereof. Failure by the Contractor to fully acquaint himself with conditions which may affect the Work, including, but not limited to conditions relating to transportation, handling, storage of materials, availability of labor, water, roads, weather, topographic and subsurface conditions, Multi-Prime Contract conditions, applicable provisions of law, and the character and availability of equipment and facilities needed prior to and during the execution of the Work, shall not relieve the Contractor of his responsibilities under the Contract Documents and shall not constitute a basis for an adjustment in the Contract Sum or the Contract Time under any circumstances. The Owner assumes no responsibility for any understanding or representation about conditions affecting the Work made by any of his officers, employees, representatives, or agents prior to the execution of the Contract, unless such understandings or representations are expressly stated in the Contract Documents.

4.23.2 If in the execution of the Work any valuable items or materials of any kind are discovered buried or hidden within the Work, such items or materials shall be the property of the Owner. The Contractor shall take reasonable precautions to prevent any persons from removing or damaging such items or materials and shall immediately upon discovery thereof and before removal, acquaint the Owner or the Design Consultant with such discovery and carry out, at the expense of the Owner, the Owner's or the Design Consultant's orders as to disposal of the same.

COMPLIANCE WITH BOARD POLICIES AND PROCEDURES

The Contractor acknowledges that Board policies are available for review at the Owner's website (<https://www.dpsnc.net>) and agrees to comply with the policies. If during the performance of the Work the Contractor finds compliance of any portion of Board policies to be impracticable, the Contractor shall immediately notify the Owner in writing setting forth the problems of such compliance and suggesting alternatives through which the same results intended by such portions of the Board policies can be achieved. The Owner may, in the Owner's sole discretion, adopt such suggestions, develop new alternatives, or require compliance with the existing requirements of the Board policies. The Contractor also agrees to comply with the following provisions:

- 4.24.1 The Contractor, its Subcontractors and employees shall not possess or carry, whether openly or concealed, any gun, rifle, pistol, or explosive on any property owned by the Owner. This includes firearms locked in containers, vehicles or firearm racks within vehicles. The Contractor, its Subcontractors and employees shall not cause, encourage or aid a minor, who is less than 18 years old to possess or carry, whether openly or concealed, any weapons on any property owned by the Owner.
- 4.24.2 The Contractor, its Subcontractors and employees, are prohibited from profane, lewd, obscene or offensive conduct or language, including engaging in sexual harassment.
- 4.24.3 The Contractor and its Subcontractors shall not manufacture, transmit, conspire to transmit, possess, use or be under the influence of any alcoholic or other intoxicating beverage, narcotic drug, hallucinogenic drug, amphetamine, barbiturate, marijuana or anabolic steroids, or possess, use, transmit or conspire to transmit drug paraphernalia on any property owned by the Owner.
- 4.24.4 The Contractor and its Subcontractors may not at any time use or display tobacco or nicotine-containing products, including but not limited to electronic cigarettes (e-cigarettes), on the Owner's property, including indoor, outdoor and in a vehicle. The prohibition of the display of tobacco or nicotine products shall not extend to a display that has a legitimate instructional or pedagogical purpose. For purposes of this Contract, "tobacco product" is defined to include cigarettes, cigars, blunts, bidis, pipes, chewing tobacco, snuff, and any other items containing or reasonably resembling tobacco, tobacco products, or any facsimile thereof. "Tobacco use" includes smoking, chewing, dipping, or any other use of tobacco products.
- 4.24.5 The Contractor, its Subcontractors and employees shall not solicit from or sell to students or staff within the Owner's facilities or campuses, and shall not give gifts of any value to school system employees.
- 4.24.6 Operators of all commercial vehicles on any property owned by the Owner shall be subject to post-accident, random, reasonable suspicion and follow-up testing for drugs and alcohol.
- 4.24.7 The Contractor, its Subcontractors and employees are prohibited from using access to the site pursuant to this Agreement as a means to date, court, or enter into a romantic or sexual relationship with any student enrolled in the Owner's schools. The Contractor agrees to

indemnify the Owner for claims against the Owner resulting from relationships which have occurred or may occur between a student and an employee of the Contractor or Subcontractor.

4.24.8

Lunsford Act/Criminal Background Checks. The Contractor shall conduct at its own expense sexual offender registry checks on each of its owners, employees, agents, or Subcontractors (“contractual personnel”) who will engage in any service on or delivery of goods to school system property or at a school-system sponsored event, except checks shall not be required for individuals who are solely delivering or picking up equipment, materials, or supplies at: (1) the administrative office or loading dock of a school; (2) non-school sites; (3) schools closed for renovation; or (4) school construction sites.. The checks shall include at a minimum checks of the State Sex Offender and Public Protection Registration Program, the State Sexually Violent Predator Registration Program, and the National Sex Offender Registry (“the Registries”). For the Contractor’s convenience only, all of the required registry checks may be completed at no cost by accessing the United States Department of Justice Sex Offender Public Website at [http:// www.nsopw.gov/](http://www.nsopw.gov/). The Contractor shall provide certification that the registry checks were conducted on each of its contractual personnel providing services or delivering goods under this Agreement prior to the commencement of such services or the delivery of such goods. The Contractor shall conduct a current initial check of the registries (a check done more than 30 days prior to the date of this Agreement shall not satisfy this contractual obligation). In addition, Contractor agrees to conduct the registry checks and provide a supplemental certification before any additional contractual personnel are used to deliver goods or provide services pursuant to this Agreement. Contractor further agrees to conduct annual registry checks of all contractual personnel and provide annual certifications at each anniversary date of this Agreement. Contractor shall not assign any individual to deliver goods or provide services pursuant to this Agreement if said individual appears on any of the listed registries. Contractor agrees that it will maintain all records and documents necessary to demonstrate that it has conducted a thorough check of the registries as to each contractual personnel, and agrees to provide such records and documents to the school system upon request. Contractor specifically acknowledges that the school system retains the right to audit these records to ensure compliance with this Section at any time in the school system’s sole discretion. Failure to comply with the terms of this provision shall be grounds for immediate termination of the Agreement. In addition, the Owner may conduct additional criminal records checks at the Owner’s expense. If the school system exercises this right to conduct additional criminal records checks, Contractor agrees to provide within seven (7) days of request the full name, date of birth, state of residency for the past ten years, and any additional information requested by the school system for all contractual personnel who may deliver goods or perform services under this Agreement. Contractor further agrees that it has an ongoing obligation to provide the school system with the name of any new contractual personnel who may deliver goods or provide services under the Agreement. The Owner reserves the right to prohibit any contractual personnel of Contractor from delivering goods or providing services under this Agreement if the Owner determines, in its sole discretion, that such contractual personnel may pose a threat to the safety or well-being of students, school personnel or others.

4.24.9

Contractor shall not employ any individuals to provide services to the Owner who are not authorized by federal law to work in the United States. Contractor represents and warrants that it is aware of and in compliance with the Immigration Reform and Control Act and North Carolina law (Article 2 of Chapter 64 of the North Carolina General Statutes) requiring use of the E-Verify system for employers who employ twenty-five (25) or more employees and that it is and will remain in compliance with these laws at all times while providing services pursuant to this Agreement. Contractor shall also ensure that any of its Subcontractors (of any tier) will remain in compliance with these laws at all times while providing subcontracted

services in connection with this Agreement. Contractor is responsible for providing affordable health care coverage to all of its full-time employees providing services to the School System. The definitions of “affordable coverage” and “full-time employee” are governed by the Affordable Care Act and accompanying IRS and Treasury Department regulations.

- 4.24.10 The Contractor, its Subcontractors and employees shall not interact with any students. Nothing in Paragraph 4.24 shall be construed to prevent the Contractor, its Subcontractors and employees from taking necessary measures to protect students, staff or other employees.
- 4.24.11 The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ any unfit person or anyone not skilled in the task assigned to it. The Owner may require the Contractor to remove any employee the Owner deems incompetent, careless or otherwise objectionable.
- 4.24.12 All agents and workers of the Contractor and its Subcontractors shall wear identification badges provided by the Contractor at all times they are on the Owner’s property. The identification badges shall at a minimum display the company name, telephone number, employee name and a picture of the employee.
- 4.24.13 The Contractor shall comply with the Owner’s site or school building access procedures when working on any existing school campus.
- 4.24.14 Anti-Nepotism. The Contractor warrants that, to the best of its knowledge and in the exercise of due diligence, none of its corporate officers, directors, or trustees and none of its employees who will directly provide services under this Agreement are immediate family members of any member of the Owner’s Board of Education or of any principal or central office staff administrator employed by the Owner. For purposes of this provision, “immediate family” means spouse, parent, child, brother, sister, grandparent, or grandchild, and includes step, half, and in-law relationships. Should Contractor become aware of any family relationship covered by this provision or should such a family relationship arise at any time during the term of this Agreement, Contractor shall immediately disclose the family relationship in writing to the Superintendent. Unless formally waived by the Owner, the existence of a family relationship covered by this Agreement is grounds for immediate termination by Owner without further financial liability to Contractor.
- 4.24.15 Restricted Companies Lists. Contractor represents that as of the date of this Agreement, Contractor is not included on the Final Divestment List created by the North Carolina State Treasurer pursuant to N.C. Gen. Stat. § 147-86.58. Contractor also represents that as of the date of this Agreement, Contractor is not included on the list of restricted companies determined to be engaged in a boycott of Israel created by the North Carolina State Treasurer pursuant to N.C. Gen. Stat. § 147-86.81.
- 4.24.16 The Contractor agrees not to discriminate against any employee, applicant for employment, or subcontractor because of physical or mental handicap. The Contractor also agrees not to discriminate against any employee, applicant for employment, or subcontractor because of race, color, religion, sex, gender identification or national origin.
- 4.24.17 Use of Drones. The Contractor acknowledges that it must obtain a signed written consent form from the Superintendent or designee to operate any and all aerial drones on the Owner’s property. Drones shall be operated in accordance with the Owner’s policy and all applicable

Federal Aviation Administration (FAA) regulations and North Carolina Department of Transportation (NCDOT) Division of Aviation requirements. Any request to operate a drone must be submitted to the Superintendent or designee in advance of the desired flight time and provide the following: the name(s) of the drone pilot and any individuals participating, proof of insurance coverage for the drone, proof of any required FAA permit, proof of any required NCDOT permit, and a detailed flight plan to include specific time and specific location.

ARTICLE 5

SUBCONTRACTORS

5.1 DEFINITION

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

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

5.1.3 Nothing contained in the Contract Documents is intended to, nor shall it create, any contractual relationship between the Owner, the Design Consultant, or any of their agents, consultants, employees, independent contractors, or representatives and any Subcontractor, Sub-subcontractor, Supplier or Vendor of the Contractor, except the relationship between Owner and Contractor, but the Owner shall be entitled to performance of all obligations intended for his benefit, and to enforcement thereof.

5.1.4 The Owner and Design Consultant will not deal directly with any Subcontractor, Sub-subcontractor or Material Supplier. Communication will be made only through the Contractor. Subcontractor, Sub-subcontractors or Material Suppliers shall route requests for information or clarification through the Contractor to the Design Consultant.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.2.1 The Contractor, in compliance with the requirements of the Contract Documents and within ten (10) days after the Notice to Proceed, shall furnish in writing to the Owner the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. The Owner will promptly reply to the Contractor in writing stating whether or not the Owner, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner to reply within a reasonable time shall constitute notice of no reasonable objection. The Contractor understands and agrees that no contractual agreement exists for any part of the Work under this Contract between the Owner and any of the Contractor's Subcontractors or Sub-subcontractors. Further, the Contractor understands and agrees that he alone is responsible to the Owner for the Work under this Contract and that any review of Subcontractors or Sub-subcontractors by the Owner will not in any way make the Owner responsible to any

Subcontractor, nor responsible for the actions or failures of any Subcontractor or Sub-subcontractor.

- 5.2.1.1 The Contractor shall identify in the list of names of the Subcontractors proposed, those Subcontractors that are Historically Underutilized Businesses (HUB's) and indicate the portion of the Work that each Subcontractor will perform.
- 5.2.2 The Contractor shall not contract with any such proposed person or entity to whom the Owner has made reasonable objection under the provisions of Paragraph 5.2.1. The Contractor shall not be required to contract with anyone to whom he has a reasonable objection.
- 5.2.3 If the Owner has reasonable objection to any proposed person or entity under Paragraph 5.2.1, the Contractor shall name a substitute to whom the Owner has no reasonable objection. The Contract Sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued, subject to an audit of said difference by the Owner; provided, however, that no increase in the Contract Sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting names as required by Paragraph 5.2.1 and the original proposed Subcontractor was: (i) able to carry out his work under his proposed subcontract, (ii) able to comply with all applicable laws, (iii) was an ongoing business in the field of his proposed subcontract, and (iv) had a labor force, capital and a means of supply compatible with the scope of his proposed subcontract.
- 5.2.4 If the Owner requires a change of any proposed Subcontractor or person or organization previously accepted by him on the Project, the Contract Sum shall be increased or decreased by the difference in cost occasioned by such change and an appropriate Change Order shall be issued, subject to an audit by Owner.
- 5.2.5 The Contractor shall notify the Owner and the Design Consultant of any substitution for any Subcontractor identified in accordance with Subparagraph 5.2.1.1. The Contractor shall make no substitution for any Subcontractor, person or entity previously selected if the Owner or the Design Consultant makes reasonable objection to such substitution. Also, Contractor may make no substitution of Subcontractors in violation of applicable law.
- 5.2.6 If during the duration of the Project, the Contractor effects a substitution for any Subcontractor per Paragraph 5.2.5, or if additional subcontract opportunities become available, the Contractor shall make a good faith effort to utilize Historically Underutilized Businesses (HUB's).

5.3 SUBCONTRACTUAL RELATIONS

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

Documents to which the Subcontractor will be bound by this Section 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Contract Documents available to his Sub-subcontractors.

5.3.2 The provisions herein regarding Subcontractor approvals shall in no way affect the liability of the Contractor to the Owner regarding performance of all obligations by or payment of Subcontractors. Approval to subcontract with any given Subcontractor shall not to any degree relieve the Contractor of his obligation to perform or have performed to the full satisfaction of the Owner the Work required by this Contract.

5.3.3 The Contractor shall submit Notice to the Owner of any Claims by Subcontractors for which the Owner is believed to be responsible, in strict conformance with the same time requirements and other procedures established for the submission of the Contractor's Claims to the Owner.

5.4 QUALIFICATION SUBMITTALS

5.4.1 Specific qualification submittals may be required of Subcontractors, installers and suppliers for certain critical items of the Work. Required qualification submittals are set forth in detail in the Specifications and shall be collected and submitted by the Contractor for review and approval by the Design Consultant. All information required of a single Subcontractor, installer or supplier shall be contained in a single, complete submittal. The Contractor shall submit the required qualification information within ten (10) days after receipt of the Design Consultant's request.

5.4.2 The Owner and Design Consultant shall reject any proposed Subcontractor, installer or supplier, or any qualification submittals related thereto, for the following reasons:

(i) The Contractor's failure to submit requested information within the specified time; or

(ii) The Contractor's failure to provide all of the requested information; or

(iii) The Contractor's submission of a Subcontractor, installer or supplier, or qualifications thereof, which are unacceptable in the judgment of the Owner or Design Consultant.

5.4.3 Should the Owner or Design Consultant have reasonable objection to any proposed Subcontractor, installer or supplier, the Contractor shall submit another person or firm who are reasonably acceptable to the Owner and Design Consultant.

5.5 PREPARATORY WORK

5.5.1 Before starting a portion of the Work, the Contractor and the responsible Subcontractor shall carefully examine all preparatory work that has been executed to receive his work. The Subcontractor shall check carefully, by whatever means are required, to ensure that his work and adjacent related work will finish to proper contours, planes and levels. He shall promptly notify the Contractor and the Design Consultant of any defects or imperfections in preparatory work, which will, in any way, affect satisfactory completion of his work. Absence of such notification will be construed as an acceptance of preparatory work and later Claims of defects therein will not be recognized.

5.5.2 Under no conditions shall a portion of the Work proceed prior to preparatory work having been completed, cured, dried, and otherwise made satisfactory to receive such related work.

Responsibility for timely installation of all materials rests solely with the Contractor, who shall maintain coordination control at all times.

ARTICLE 6

WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

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

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

6.2 MUTUAL RESPONSIBILITY

6.2.1 The Contractor shall afford Separate Contractors and the Owner reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work and shall properly connect and coordinate the Work with that of the Owner and other contractors to store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the Work as will not unduly or unreasonably interfere with the progress of the Work or the work of any other contractors.

6.2.1.1 If the execution or result of any part of the Work depends upon any work of the Owner or of any Separate Contractor, the Contractor shall, prior to proceeding with the Work, inspect and promptly report to the Owner in writing any apparent discrepancies or defects in such work of the Owner or of any Separate Contractor that render it unsuitable for such proper execution or result of any part of the Work.

6.2.1.2 Failure of the Contractor to so inspect and report shall constitute an acceptance of the Owner's or Separate Contractor's work as fit and proper to receive the Work, except as to defects which may develop in the Owner's or Separate Contractor's work after completion of the Work and which the Contractor could not have discovered by its inspection prior to completion of the Work.

6.2.2 Should the Contractor cause damage to the Work or property of the Owner or of any Separate Contractor on the Project, or to other work on the site, or delay or interfere with the Owner's work on ongoing operations or facilities or adjacent facilities or said Separate Contractor's work, the Contractor shall be liable for the same; and, in the case of another contractor, the Contractor shall attempt to settle said Claim with such other contractor prior to such other contractor's institution of litigation or other proceedings against the other contractor.

6.2.2.1 Should a Separate Contractor be declared in default by the Owner, the Owner shall not be obligated to hire a contractor to perform the work of the Separate Contractor during the time the Separate Contractor's surety is remedying the default pursuant to Paragraph 3.4.2.

6.2.2.2 If such Separate Contractor sues the Owner or Design Consultant on account of any damage, delay or interference cause or alleged to have been caused by the Contractor, the Owner shall

notify the Contractor, who shall defend the Owner and Design Consultant in such proceedings at the Contractor's expense. If any judgment or award is entered against the Owner or Design Consultant in such proceedings, the Contractor shall satisfy the same and shall reimburse the Owner and Design Consultant for all damages, expenses, attorney's fees and other costs which the Owner or Design Consultant incurs as a result thereof.

6.2.3 Should a Separate Contractor cause damage to the Work or to the property of the Contractor or cause delay or interference with the Contractor's performance of the Work, the Contractor shall present directly to said Separate Contractor any Claims it may have as a result of such damage, delay or interference (with an information copied to the Owner) and shall attempt to settle its Claim against said Separate Contractor prior to the institution of litigation or other proceedings against said Separate Contractor.

6.2.3.1 In no event shall the Contractor seek to recover from the Owner or the Design Consultant, and the Contractor hereby waives any Claims against the Owner and Design Consultant relating to any costs, expenses (including, but not limited to, attorney's fees) or damages or other losses incurred by the Contractor as a result of any damage to the Work or property of the Contractor or any delay or interference caused by any Separate Contractor.

6.2.4 Whenever Contractor receives items from another contractor or from Owner for storage, erection or installation, the Contractor receiving such items shall give receipt for items delivered, and thereafter will be held responsible for care, storage and any necessary replacing of item or items received.

6.2.5 When certain items of equipment and other work are indicated as "NIC" (not in contract), or to be furnished and installed under other contracts, any requirements set forth in the Contract Documents for preparation of openings, provision of backing, etc., for receipt of such "NIC" work will be furnished upon written request of the Contractor who shall properly form and otherwise prepare his work in a satisfactory manner to receive such "NIC" work.

6.3 OWNER'S RIGHT TO PERFORM DISPUTED WORK

6.3.1 If a dispute arises between the Contractor and Separate Contractors as to their responsibility for cleaning up as required by Section 4.18 or for accomplishing coordination or doing required cutting, filling, excavating or patching as required by Section 4.17, the Owner may carry out such work and charge the cost thereof to the responsible party as the Owner shall determine to be just.

6.4 COORDINATION OF THE WORK

6.4.1 By entering into this Contract, Contractor acknowledges that there may be other contractors on the site whose work will be coordinated with that of his own. Contractor expresses, warrants and guarantees that he will cooperate with other contractors and will do nothing to delay, hinder or interfere with the work of other Separate Contractors, the Owner or Design Consultant. Contractor also expressly agrees that, in the event his work is hindered, delayed, interfered with or otherwise affected by a Separate Contractor, his sole remedy will be a direct action against the Separate Contractor as described in this Article 6. Contractor will have no remedy, and hereby expressly waives any remedy, against the Owner and/or the Design Consultant on account of delay, hindrance, interference or other event caused by a Separate Contractor.

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

7.1.1 This Contract shall be governed by the laws of the State of North Carolina. The Contractor and Owner agree that Durham County, North Carolina shall be the proper venue for any litigation arising out of this Contract.

7.1.2 Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein. If through mistake or otherwise, any such provision is not inserted or is not correctly or fully inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

7.2 SUCCESSORS AND ASSIGNS

7.2.1 The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any moneys due or to become due to him hereunder, without the previous written consent of the Owner and the Contractor's Surety.

7.3 CLAIMS AND DAMAGES

7.3.1 Should the Contractor, Subcontractor or any Sub-subcontractor suffer injury or damage to person or property because of any act or omission of the Owner or Design Consultant, or of any of their employees, agents or others for whose acts either is legally liable, the Claim on behalf of the Contractor its Subcontractors or Sub-subcontractors shall be made by giving Notice to the Owner, as provided in Article 15 ; otherwise, the Contractor, Subcontractors and Sub-subcontractors shall have waived any and all rights he may have against the Owner or the Design Consultant, or their employees, representatives and agents. The Contractor shall indemnify, defend and hold the Owner harmless from any Claim by a Subcontractor that is waived because it is not filed in strict conformance with this Paragraph or any other provision of the Contract regarding Claims.

7.4 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.4.1 The Contractor shall furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder in a form and with a Surety satisfactory to the Owner.

7.4.2 The Contractor is required to furnish in duplicate a Performance Bond and a Labor and Material Payment Bond, each in the amount of one hundred percent (100%) of the Contract Sum, written by a surety company licensed to do business in North Carolina and with a minimum AM Best "A" rating or comparable rating from another service reasonably acceptable to Owner.

7.5 RIGHTS AND REMEDIES

7.5.1 The duties and obligations of the Contractor imposed by the Contract Documents and the rights and remedies of the Owner available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

7.5.2 Except as may be specifically agreed in writing, the failure of the Owner or the Design Consultant to insist in any one or more instances upon the strict performance of any one or more of the provisions of the Contract, or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provisions or right(s) or of the right to subsequently demand such strict performance or exercise such right(s), and the rights shall continue unchanged and remain in full force and effect.

7.5.3 The Contractor agrees that he can be adequately compensated by money damages for any breach of the Contract which may be committed by the Owner and hereby agrees that no default, act, or omission of the Owner or the Design Consultant, except for failure to make progress payments as required by the Contract Documents, shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of the Contract or (unless the Owner shall so consent or direct in writing) to suspend or abandon performance of all or any part of the Work. The Contractor hereby waives any and all rights and remedies to which he might otherwise be or become entitled, save only his right to money damages.

7.6 TESTS AND INSPECTIONS

7.6.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested, or approved, the Contractor shall give the Owner and Design Consultant timely Notice of its readiness so the Design Consultant and the Owner may observe such inspection, testing or approval. Unless otherwise specifically provided in the Contract Documents, the Contractor shall bear all costs of such inspections, tests or approvals, except that Owner shall pay for "special inspections" as defined and required in Section 1704, the North Carolina State Building Code, or successor section. In the event that such "special inspections" reveal a failure of the Work to comply with the Contract Documents or applicable laws, ordinances, regulations or orders of public authorities having jurisdiction, Contractor shall reimburse the Owner for the costs of such "special inspections".

7.6.1.1 Unless otherwise stipulated in the Contract Documents, the Contractor shall pay for all utilities required for testing of installed equipment of all of his work and work of each Subcontractor. Boiler fuel other than gas shall be provided by Subcontractor furnishing boilers. Labor and supervision required for making such tests shall be provided at no additional cost to the Owner.

7.6.2 If the Design Consultant or the Owner determines that any portion of the Work requires additional inspection, testing, or approval which Paragraph 7.6.1 does not include, the Owner will instruct the Contractor to order such additional inspection, testing or approval, and the Contractor shall give Notice as provided in Paragraph 7.6.1. If such additional inspection or testing reveals a failure of any portion of the Work to comply (1) with the requirements of the Contract Documents, or (2) with respect to the performance of the Work, with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, the Contractor shall bear all costs thereof, including compensation for the Design Consultant's and Owner's additional construction management expenses made necessary by such failure.

7.6.3 With regard to inspections and tests, the costs of which the Owner is responsible for paying, they will be made by a pre-qualified, independent testing agency selected by the Owner. The cost of the initial services of such agency will be paid by the Owner. When the initial tests

indicate non-compliance with the Contract Documents, any subsequent testing occasioned by non-compliance shall be performed by the same agency and the cost thereof shall be borne by the Contractor. Representatives of the testing agency shall have access to the Work at all times. The Contractor shall provide facilities for such access in order that the agency may properly perform its functions.

7.6.4 The independent testing agency, contracted by the Owner, shall prepare the test reports, logs, and certificates applicable to the specific inspections and tests and promptly deliver the specified number of copies to the designated parties. Certificates of inspection, testing or approval required by public authorities shall be secured by the Contractor and promptly delivered by him to the Owner, in adequate time to avoid delays in the Work or final payment therefore.

7.6.5 If the Design Consultant or the Owner is to observe the inspections, tests or approvals required by the Contract Documents, laws, ordinances, rules, regulations, or order of any public authority having jurisdiction or that are required to establish compliance with the Contract Documents, he will do so promptly and, where practicable, at the normal place of testing.

7.6.6 The Contractor shall pay for and have sole responsibility for inspections or testing performed exclusively for his own convenience.

7.7 UNENFORCEABILITY OF ANY PROVISION

7.7.1 If any provision of this Contract is held as a matter of law to be unenforceable or unconscionable, the remainder of the Contract shall be enforceable without such provision.

7.8 ATTORNEYS' FEES AND OTHER EXPENSES

7.8.1 The Contractor hereby agrees that he will not submit, assert, litigate or otherwise pursue any frivolous or unsubstantiated Claims or Claims he has specifically waived under the terms of the Contract Documents. In the event that the Contractor's or its Subcontractor's or Sub-subcontractor's Claims, or any separate item of a Claim, is without substantial justification, the Contractor shall reimburse the Owner or Design Consultant for all costs and expenses associated with defending such Claim or separate item, including but not limited to, attorneys' fees, audit costs, accountants' fees, expert witness' fees, additional Design Consultant expenses, additional construction management expenses, or services and any other consultant costs.

7.8.2 If the Contractor breaches any obligation under the Contract Documents, the Contractor shall reimburse the Owner and Design Consultant for all costs and expenses incurred by the Owner relating to such breach, including but not limited to attorneys' fees, audit costs, accountants' fees, expert witness' fees, additional Design Consultant expenses, additional construction management expenses, and any other consultant costs.

7.8.3 If the Owner or Design Consultant substantially prevails in a Claim brought against the Contractor, or in defending a Claim brought by the Contractor, including but not limited to, Claims for fraud or misrepresentation, overpayment, defective work, delay damages, and recovery of termination expenses, the Contractor shall reimburse the Owner and/or Design Consultant for all costs and expenses incurred by them relating to such Claim, including but not limited to attorneys' fees, audit costs, accountants' fees, expert witness' fees, additional Design Consultant expenses, additional construction management expenses, and any other consultant costs.

ARTICLE 8

TIME

8.1 DEFINITIONS

8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Final Completion of the Work as defined in Paragraph 8.1.4, including authorized adjustments thereto. The Contractor shall achieve Final Completion within the Contract Time.

8.1.2 The date of commencement of the Work is the date established in the Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Owner-Contractor Agreement or such other date as may be established therein. The Contractor shall not commence work or store materials or equipment on site until written Notice to Proceed is issued or until the Contractor otherwise receives the Owner's written consent.

8.1.3 The date of Substantial Completion of the Work or designated portion thereof is the date certified by the Design Consultant and the Owner when the Work or a designated portion thereof is sufficiently complete, in accordance with the Contract Documents, so the Owner can fully and legally occupy and utilize the Work or designated portion thereof for the use for which it is intended, with all of the parts and systems operable as required by the Contract Documents, including a preliminary test and balance report for the mechanical system. Only incidental corrective work and any final cleaning beyond that needed for the Owner's full use may remain for Final Completion. The Contractor acknowledges and agrees that the intercom, telephone, data security, building automation system (including functional graphics at the site), MATV, and other educational operational systems are required for the Owner's use of the building for its intended purpose. The Contractor shall provide operation and maintenance manuals to the Owner as required by the Contract Documents prior to Substantial Completion and shall provide the required training on the operation of the equipment and systems within two weeks of Substantial Completion. The Contractor shall achieve Substantial Completion by the date specified in the Supplemental Conditions including authorized adjustments thereto. The Owner's occupancy of incomplete work shall not alter the Contractor's responsibilities pursuant to this paragraph. Only incidental corrective work and any final cleaning beyond that needed for the Owner's full use may remain for Final Completion. The issuance of a temporary or final certificate of occupancy shall not, in itself, constitute Substantial Completion.

8.1.4 Final Completion of the Work occurs on the date certified by the Design Consultant and the Owner when the Work is totally complete, to include punch list work, in accordance with the Contract Documents and the Owner may fully occupy and utilize the Work for the use for which it is intended. The issuance of a temporary or final certificate of occupancy shall not, in itself, constitute Final Completion.

8.1.5 The term Day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated. All dates shall mean midnight of the indicated day unless otherwise stipulated.

8.1.6 Completion Dates shall mean the dates set forth in the Supplemental Conditions for Substantial Completion and Final Completion.

8.2 PROGRESS AND COMPLETION

8.2.1 All time limits stated in the Contract Documents are of the essence of the Contract with respect to the Contractor's performance.

8.2.2 The Contractor shall begin the Work on the date of commencement as defined in Paragraph 8.1.2. He shall carry the Work forward expeditiously with adequate forces and shall achieve Substantial Completion and Final Completion within the time frames stated in the Contract Documents.

8.2.3 Attention is directed to the fact that the Work is urgently needed by the Owner; for this reason, it shall be agreed that the Contractor and its Subcontractors will achieve Substantial Completion of the Work under the Contract within the time established under Paragraph 8.2.4 of the Supplemental Conditions after award of Contract, or Notice to Proceed, and that he will achieve Final Completion of the Work in all its details for final acceptance within the time established under Paragraph 8.2.4 of the Supplemental Conditions.

8.2.4 The Owner reserves the right to withhold the issuance of Notice to Proceed by up to forty-five (45) days. For each day that Notice to Proceed is withheld pursuant to this Subparagraph, the dates established for Substantial Completion and Final Completion shall be adjusted. The contractor shall not be entitled to additional compensation if the owner withholds the issuance of Notice to Proceed pursuant to this Subparagraph.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 The time during which the Contractor or any of the Subcontractors is delayed in the performance of the Work by the issuance of any required permits, acts of god, excessive inclement weather, fires, floods, epidemics, quarantine restrictions, strikes, riots, civil commotions or freight embargoes, or other conditions beyond the Contractor's or the Subcontractors' control and which the Contractor or the Subcontractors could not reasonably have foreseen and provided against, except for delays caused solely by the Owner, Design Consultant or their consultants, shall be added to the time for completion of the Work stated in the Contract. Neither the Owner nor the Design Consultant shall be obligated or liable to the Contractor or the Subcontractors for indirect or direct damages, costs or expenses of any nature which the Contractor, the Subcontractors, or any other person may incur as a result of any of the delays, interferences, changes in sequence in the Work included in this Section 8.3.1. The Contractor hereby expressly waives any Claims against the Owner and the Design Consultant on account of any indirect or direct damages, lost profits, costs or expenses of any nature which the Contractor, the Subcontractors or any other person may incur as a result of any delays, interferences, changes in sequence or the like, and it is understood and agreed that the Contractor's sole and exclusive remedy in any such events shall be an extension of the Contract time in accordance with the Contract Documents.

8.3.2 In the event Project delays arise from or out of any act or omission of the Owner, Design Consultant or their consultants, the time during which the Project is delayed shall be added to the Contract and the Contractor may be reimbursed for its direct Project damages, excluding general overhead expenses and indirect costs, if the Contractor strictly complies with this Article 8.3. Notwithstanding the previous sentence, if the Contractor or Subcontractor in any way shares in responsibility for the delay, neither the Owner nor the Design Consultant shall be obligated or liable to the Contractor or the Subcontractors for indirect or direct damages, costs or expenses of any nature which the Contractor, the Subcontractors, or any other person may incur as a result of any of the delays, interferences, changes in sequence of the Work, and the Contractor's sole remedy, if any, shall be an extension of the Contract time.

- 8.3.3 In the event Project delays arise solely from or out of any act or omission of the Contractor, Subcontractors or their agents, the Contractor shall not be entitled to extension of the Contract time and shall be subject to the payment of Liquidated Damages as provided in this Contract.
- 8.3.4 The Contract time shall be adjusted only for changes pursuant to section 12.1, suspension of the Work pursuant to paragraph 3.3.2 or paragraph 3.3.3, and excusable delays pursuant to paragraph 8.3.4. In the event the Contractor requests an extension of the Contract time or files a Claim related to any form of delay, it shall furnish such justification and supporting evidence as the Owner may deem necessary for a determination of whether or not the Contractor is entitled to an extension of time under the provisions of the Contract, and shall further conform to all of the requirements of the specifications and the Contract regarding construction schedules and reports. The burden of proof to substantiate a Claim shall rest with the Contractor, including evidence that the cause was beyond its control. The Owner shall base its findings of fact and decision on such justification and supporting evidence, including a finding that the alleged delay impacted the Project's critical path, and shall advise the Contractor in writing thereof. If the Owner finds that the Contractor is entitled to any extension of the Contract time, the Owner's determination of the total number of days of extension shall be based upon the currently approved progress schedule and on all data relevant to the extension. Such data will be incorporated into the schedule in the form of a revision thereto, accomplished in a timely manner. The Contractor acknowledges and agrees that actual delays (due to said changes, suspension of Work or excusable delays) in activities which, according to the schedule, do not affect the Contract time, do not have any effect upon the Contract time and therefore will not be the basis for a change therein. The Contractor acknowledges and agrees that time extensions will be granted only to the extent that excusable delays exceed the available float in the critical path activities in the Contractor's currently approved schedule.
- 8.3.4.1 Extensions in the Contract time by Change Orders are subject to extension-in-time audit by the Owner as follows:
- 8.3.4.1.1 The Contractor agrees that, even though the Owner, Contractor and Design Consultant have previously signed a Change Order containing an extension-in-time resulting from a change in or addition to the Work that said extension in the Contract time may be adjusted by an audit after the fact by the Owner. If such an audit is to be made, the Owner must undertake the audit and make a ruling within thirty (30) days after the completion of the Work under the Change Order.
- 8.3.4.1.2 The Contractor agrees that any extension of the Contract time to which it is entitled arising out of a Change Order undertaken on a force accounting (labor and materials) basis, shall be determined by an extension-in-time audit by the Owner after the Work of the Change Order is completed. Such rulings shall be made by the Owner within thirty (30) days after a request for same is made by the Contractor or Design Consultant, except said thirty (30) days will not start until the Work under the Change Order is completed.
- 8.3.4.1.3 Should a time extension be granted for Substantial Completion the date for Final Completion shall be appropriately adjusted unless specifically stated otherwise.
- 8.3.4.2 Subject to other provisions of the Contract, the Contractor may be entitled to an extension of the Contract time (but no increase in the Contract sum) for delays arising from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, the Subcontractors or suppliers as follows:

- 8.3.4.2.1 Labor disputes and strikes (including strikes affecting transportation), that do, in fact, directly delay the progress of the Work on the critical path; however, an extension of Contract time on account of an individual labor strike shall not exceed the number of days of said strike;
- 8.3.4.2.2 Acts of nature: tornado, fire, hurricane, blizzard, earthquake, or flood that damage Work in place or stored materials or adversely impact the schedule's critical path;
- 8.3.4.2.3 Excessive inclement weather; however, the Contract time will not be extended due to reasonably anticipated inclement weather or for delays in the aftermath of inclement weather, reasonably anticipated or excessive. The time for performance of this Contract, as stated in the Contract Documents, includes an allowance for calendar days which may not be available for construction out-of-doors; for the purposes of this Contract, the Contractor agrees that the number of calendar days per month based on a five-year average shall be considered reasonably anticipated inclement weather and planned for in the construction schedule per the Contract. Unless the Contractor can substantiate to the satisfaction of the Owner that there was greater than the reasonably anticipated inclement weather considering the time from the notice-to-proceed until the building is enclosed using data from the national weather service station identified in the Supplemental Conditions, or a weather station acceptable to the Owner and that such alleged greater than reasonably anticipated inclement weather actually delayed the Work or portions thereof which had an effect upon the Contract time, the Contractor shall not be entitled to an extension of time. The Parties agree that the weather station applicable to this Project shall be the one located at Raleigh-Durham Airport, unless a different weather station is specifically agreed to in writing between the Owner and Contractor.

Also the Contractor agrees that the calculation of the number of excessive inclement weather days shall be the number of days in excess of the five-year average for each month, in which precipitation exceeded one tenth (.10) inch, or in which the highest temperature was 32 degrees F or less as recorded at the approved weather station. Rain days from hurricanes and tropical storms not causing damage in the county in which the project is located shall be deemed inclement weather days.

If the total accumulated number of calendar days lost to excessive inclement weather, from the notice-to-proceed until the building is enclosed, exceeds the total accumulated number to be reasonably anticipated for the same period from the table above, time for completion will be extended by the number of calendar days needed to include the excess number of calendar days lost. No extension of time will be made for days due to excessive inclement weather occurring after the building is enclosed. For the purpose of this Contract, the term "enclosed" is defined to mean when the building is sufficiently roofed and sealed, either temporarily or permanently, to permit the structure to be heated and the plastering and dry-wall trades to work. The Design Consultant shall determine when the structure is "enclosed". Upon the request of either party, the Design Consultant shall issue a letter certifying to the Owner, with a copy to the Contractor, stating the date the building became enclosed. No change in Contract sum will be authorized because of adjustment of Contract time due to excessive inclement weather; and

- 8.3.4.2.4 Delays in the issuance of a permit required for construction of the Project, acts of the public enemy, acts of the State, Federal or local government in its sovereign capacity, and acts of another Contractor in the performance of a Contract with the Owner relating to the Project.
- 8.3.5 If the Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay the Owner the amount

8.3.6 agree, as a part consideration for the awarding of this Contract, to pay the Owner the amount specified in the Contract, not as a penalty but as Liquidated Damages for such breach of Contract

as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the Work. The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.

8.3.7 The Contractor and the Subcontractors shall not be entitled to and hereby expressly waive any extension of time resulting from any condition or cause unless said Claim for extensions of time is made in writing to the Owner within ten (10) days of the first instance of delay for all delays, except excessive inclement weather which shall be made in writing to the Owner within forty-five (45) days after the date the structure is enclosed. Circumstances and activities leading to such Claim shall be indicated or referenced in a daily field inspection report for the day(s) affected. In every such written Claim, the Contractor shall provide the following information:

8.3.7.1 Nature of the delay;

8.3.7.2 Date (or anticipated date) of commencement of delay;

8.3.7.3 Activities on the progress schedule affected by the delay, and/or new activities created by the delay and their relationship with existing activities;

8.3.7.4 Identification of person(s) or organization(s) or event(s) responsible for the delay;

8.3.7.5 Anticipated extent of the delay; and

8.3.7.6 Recommended action to avoid or minimize the delay.

8.3.8 If no schedule or agreement is made stating the dates upon which written interpretations as set forth in Section 2.2 shall be furnished, then no Claim for delay shall be allowed on account of failure to furnish such interpretations until twenty (20) days after request is made for them, and not then unless such Claim is reasonable.

8.3.9 No Claim by the Contractor for an extension of time for delays will be considered unless made in strict compliance with the requirements of this Article. All Claims not filed in accordance with this paragraph shall be waived by the Contractor.

8.4 RESPONSIBILITY FOR COMPLETION

8.4.1 The Contractor shall be responsible for completion in accordance with Paragraph 4.12.1.

8.4.2 The Owner may require the Contractor to submit a recovery schedule demonstrating his program and proposed plan to make up the lag in scheduled progress and to ensure completion of the Work within the Contract Time if the Project is behind schedule by four (4) or more days. If the Owner finds the proposed plan not acceptable, he may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are not satisfactory, the Owner may require the Contractor to take any of the actions set forth in Paragraph 4.12.2 without additional cost to the Owner, to make up the lag in scheduled progress.

8.4.3 Failure of the Contractor to substantially comply with the requirements of this Section 8.4 may

8.4.4

8.4.5 be considered grounds for a determination by the Owner, pursuant to Section 14.3, that the

Contractor is failing to prosecute the Work with sufficient diligence to ensure its completion within the Contract Time.

8.5 LIQUIDATED DAMAGES FOR DELAY

8.5.1 Owner and Contractor agree that the damages incurred by the Owner due to the Contractor's failure to achieve Substantial Completion by the date specified in the Contract Documents for Substantial Completion, including any extensions thereof, shall be in the amount of One Thousand dollars (\$1000) per calendar day, for each consecutive day beyond the date of Substantial Completion that Contractor achieves Substantial Completion, and that the damages incurred by the Owner due to the Contractor's failure to achieve Final Completion by the date specified in the Contract Documents for Final Completion, including any extensions thereof, shall be in the amount of Five Hundred dollars (\$500) per calendar day for each consecutive day beyond the date of Final Completion that Contractor achieves Final Completion. The Liquidated Damages are a reasonable estimate by Contractor and Owner of the damages to be suffered by Owner and are not to be construed as a penalty, it being recognized by the Owner and the Contractor that the injury to the Owner which could result from a failure of the Contractor to complete on schedule is uncertain and cannot be computed exactly or that it would be unreasonably expensive for Owner to calculate its damages exactly.

8.5.2 The amount specified above for Substantial Completion is the minimum measure of damages the Owner will sustain due to delay in the completion of the Work, which shall include, but not be limited to the loss of use of the facilities, the relocation of students and services, the cost of the Owner's time and resources, damage to the Owner's reputation, and storage of furniture and other materials. The amount specified above for Final Completion is a reasonable and proper measure of the damages the Owner will sustain due to the delay in the completion of remedial work. This amount includes the disruption to the school and the learning environment, the cost of the Owners time and resources, damage to the Owner's reputation, and the inability to fully use the facilities. The inability of the Owner to quantify actual damages shall not prevent the recovery of Liquidated Damages.

8.5.3 Notwithstanding any other provisions of these General Conditions, if there is concurrent delay in the completion of the Work, the Contractor shall be liable for Liquidated Damages as specified above during such period of concurrent delay. For the purpose of this Paragraph, concurrent delay means (a) a delay event caused in part by the Owner or its agent and in part by the Contractor or its agents, Subcontractors or Sub-subcontractors, or (b) one or more delay event caused solely by the Owner, its agents, or the Design Consultant, and one or more delay event caused in part by the Contractor, its agents, Subcontractors or Sub-subcontractors, each of which would have resulted in a delay without the other and which delays run concurrently, or at the same time. In the event that the foregoing provision making the Contractor liable for Liquidated Damages during a period of concurrent delay is found to be unenforceable, then the parties agree that in the event of a concurrent delay, the extent of the delay will be apportioned between the Owner and the Contractor, and the Contractor will be responsible for Liquidated Damages as set forth in the General Conditions and Supplemental Conditions for those portions of the delay which are apportioned to the Contractor, its agent, Subcontractors, Sub-subcontractors, or Material Suppliers.

8.5.4 The provisions for Liquidated Damages do not bar or limit Owner's other rights and remedies against Contractor, for damages other than for failure to achieve the Substantial Completion date or the Final Completion date as required. The amount of Liquidated Damages set forth in Section 8.5 shall not include additional legal or design professional costs that may result from the Contractor's default. If such legal or design professional costs are incurred by the Owner,

the Contractor shall be liable to the Owner for those costs in addition to the Liquidated Damages amount set forth in Section 8.5.

- 8.5.5 The Liquidated Damages assessed for failure to meet Substantial Completion by the specified date and the Liquidated Damages assessed for failure to meet Final Completion by the specified date shall be assessed cumulatively.

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

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

9.2 SCHEDULE OF VALUES

- 9.2.1 Before the first Application for Payment, the Contractor shall submit to the Owner a schedule of values allocated to the various portions of the Work and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used as a basis for the Contractor's Applications for Payment and only for this purpose. If approved by the Owner, the Contractor may include in his schedule of values a line item for mobilization which shall include a reasonable amount of mobilization for the Contractor and his Subcontractors. The Contractor shall not front-end load his schedule of values. The Design Consultant shall approve the schedule of values prior to the Contractor submitting an Application for Payment for any Work, except reimbursement for the cost of the Contractor's bonds and insurance.

9.3 APPLICATIONS FOR PAYMENT

- 9.3.1 At least 30 days prior to the date for each progress payment established in the Owner-Contractor Agreement, the Contractor shall submit to the Design Consultant an itemized Application for Payment, notarized if required, supported by such data substantiating the Contractor's right to payment as the Design Consultant and the Owner may require, including but not limited to the Contractor's certification that all work for which payment is requested has been completed in full in accordance with the Contract Documents, and reflecting retainage, if any, as provided elsewhere in the Contract Documents. If requested by the Owner, the Contractor shall also certify that he has paid all due and payable amounts for which previous Applications for Payment were issued and payments received from the Owner, by providing waivers of liens for said payments. At least 40 days prior to the date established for payment, the Contractor may submit a draft of the itemized Application for Payment for review and comment by the Design Consultant prior to the Contractor submitting the actual itemized Application for Payment. Unless otherwise stated in the Contract Documents or agreed to in writing between the Owner and Contractor, Applications for Payment shall be due on the 25th day of each month.

- 9.3.1.1 The Contractor shall submit with the Application for Payment, Appendix E a list of those Historically Underutilized Businesses (HUB's) Subcontractors whose work is included in the application and the amount due each. In addition, the Historically Underutilized Business (HUB) must itself perform satisfactory work or services or provide supplies under the Contract and not act as a mere conduit.

- 9.3.2 The Owner will withhold retainage from Contractor on all Applications for Payment to the maximum extent and in the maximum amount allowed by law (currently codified at N.C.G.S. 143-134.1) and in accordance with that statute or applicable successor statute. In the event that N.C.G.S. 143-134.1 or applicable successor statute are not in effect or do not apply at the time the Contract is executed, Owner will retain five percent (5%) of the amount of each Application for Payment from the Contractor as retainage, until Contractor achieves Final Completion, whether or not the Owner has occupied any or all of the Project before such time. However, if the Owner, at any time after fifty percent (50%) of the Work has been completed, finds that satisfactory progress is being made, he may authorize payment to the Contractor in full of each Progress Payment for work performed beyond the fifty percent (50%) stage of completion. If a reduction in retainage has been made, the Owner may increase the retainage back to original percentage at any time if the Owner concludes that the Contractor is not progressing with the Work in a timely or satisfactory manner.
- 9.3.3 Payments may be made by the Owner, at its sole discretion, on account of materials or equipment not incorporated in the work but delivered and suitably stored at the site or in a bonded warehouse by the Contractor. Payments for materials or equipment stored shall only be considered upon submission by the Contractor of satisfactory evidence (for example, releases or paid invoices from the seller) that the Contractor has acquired title to such material, that it will be utilized on the work under this Contract and that it is satisfactorily stored, protected, and insured or that other procedures satisfactory to the Owner that will protect the Owner's interests have been taken. In the event the materials are stored in a bonded warehouse that is not located in the county of the project, the Contractor shall reimburse the travel cost and hourly billing expenses incurred by the Design Consultant for travel to view and assess whether the materials meet the requirements of the Contract Documents. Materials once paid for by the Owner become the property of the Owner and may not be removed from the work site or bonded warehouse, other than to be delivered from the warehouse to the site, without the Owner's written permission. Responsibility for such stored materials and equipment shall remain with the Contractor regardless of ownership.
- 9.3.3.1 Owner will not make payment to the Contractor on account of materials or equipment not incorporated in the Work but delivered and stored at the site if the Contractor, in his schedule of values, does not include line items for such delivered and stored materials or equipment.
- 9.3.3.2 It is specifically understood and agreed that an inspection and approval of the materials by the Owner, the Design Consultant or any agency retained by any of them shall not in any way subject the Owner to pay for the said materials or any portion thereof, even though incorporated in the Work, if said materials shall in fact turn out to be unfit to be used in the Work, nor shall such inspection be considered as any waiver of objection to the Work on account of the unsoundness or imperfection of the material used.
- 9.3.4 The Contractor warrants that title to all work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "liens"; and that no work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

9.3.5 The Contractor shall submit with the Application for Payment a notarized Contractor's Sales Tax Report of N.C. State and County sales taxes paid during the payment period with respect to building materials, supplies, fixtures, and equipment that have become a part of, or annexed to, a building or structure erected, altered or repaired for the Owner. The Sales Tax Report shall include the vendor from whom the property was purchased, the dates and number of invoices covering the purchase, the total amount of the invoices of each vendor, the North Carolina State and County sales and use tax paid thereof, and the cost of the property withdrawn from the warehouse stock and North Carolina sales or use taxes paid thereof. Items that should not be included are: scaffolding, forms for concrete, fuel for operation of machinery and equipment, tools, equipment, equipment repair parts and equipment rentals.

9.3.6 Unless an interest rate is required by law, Owner shall not pay any interest on an amount owed to Contractor. No interest shall accrue on amounts Owner is authorized by law or by the Contract to withhold or backcharge to Contractor.

9.4 CERTIFICATION OF PAYMENT

9.4.1 The Design Consultant will, after receipt of the Contractor's Application for Payment either issue a Certification of Payment to the Owner, with a copy to the Contractor, for such amount as the Design Consultant determines is properly due, or notify the Contractor in writing of their reasons for withholding a Certification as provided in Paragraph 9.6.1.

9.4.2 The submission and approval of the progress schedule and monthly updates thereof as required by the Contract shall be an integral part and basic element of the application upon which progress payment shall be made. The Contractor shall be entitled to progress payments only as determined from the currently approved and updated schedule.

9.4.3 The signing of a Certification of Payment will constitute a representation by the Design Consultant to the Owner, based on their observations at the site pursuant to their agreements with the Owner, and the data comprising the Application for Payment, that the Work has progressed to the point indicated; that, to the best of their knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in their Certification); and that the Contractor is entitled to payment in the amount certified. However, by signing a Certification of Payment, the Design Consultant shall not thereby be deemed to represent that it has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work or that it has reviewed the construction means, methods, techniques, sequences, or procedures, or that it has made any examination to ascertain how or for what purpose the Contractor has used the moneys previously paid on account of the Contract Sum.

9.5 PROGRESS PAYMENTS

9.5.1 After a Certification of Payment has been issued, the Owner shall make payment in the manner and within the time provided in the Contract Documents, unless Contractor is in breach of the Contract or otherwise owes the Owner, in which case Owner may withhold an appropriate amount. Unless otherwise stated in the Contract Documents, the Owner shall make payment within 45 days of the Design Consultant's written approval of the Application for Payment.

9.5.2 The Contractor shall promptly pay each Subcontractor (including suppliers, laborers, and

material-men) performing labor or furnishing material or equipment for the Work, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor's work. The Contractor shall, by an appropriate agreement with each Subcontractor, also require each Subcontractor to make payments to his Sub-subcontractors in similar manner. The Owner may at any time require proof of payment to a Subcontractor or Sub-subcontractor for work paid by the Owner. Notwithstanding any other provision of the General Conditions, no Contractor, Subcontractor, Sub-subcontractor or Material Supplier shall have any Claim against the Owner, by virtue of the Contract, under any theory, including breach of contract, or third party beneficiary. The Owner shall not be in privity of any contract with any Subcontractor, Sub-subcontractor or Material Supplier pertaining to the Work, the Project and these General Conditions. Also, neither the Contractor, or any Subcontractor or Sub-subcontractor shall have any right to assert a lien on Owner's real property or on any funds held by Owner.

- 9.5.3 The Owner may, on request and at his discretion, furnish to any Subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Design Consultant on account of work done by such Subcontractor.
- 9.5.4 Neither the Owner nor the Design Consultant shall have any obligation to pay or to see to the payment of any moneys to any Subcontractor except as may otherwise be required by law.
- 9.5.5 No Certification for a progress payment, nor any progress payment or final payment, nor any partial or entire use or occupancy of the Project by the Owner, shall constitute an acceptance of any Work not in accordance with the Contract Documents.
- 9.5.6 The Contractor agrees to keep the Work and the site of the Project free and clear of all liens related to labor and materials furnished in connection with the Work. Furthermore, pursuant to and in compliance with requirements of Paragraph 9.3.4, the Contractor waives any right he may have to file any type of lien in connection with the Work. Notwithstanding anything to the contrary contained in the Contract Documents, if any such lien is filed or there is evidence to believe that any lien may be filed at any time during the progress of the Work or within the duration of this Contract, the Owner may refuse to make any payment otherwise due the Contractor or may withhold from any payment due the Contractor a sum sufficient in the opinion of the Owner to pay all obligations and expenses necessary to satisfy such lien or the underlying claim represented by such lien. The Owner may withhold such payment unless or until the Contractor, within ten (10) days after demand thereof by the Owner, shall furnish satisfactory evidence that the indebtedness and any lien in respect thereof has been satisfied, discharged and released of record, or that the Contractor has legally caused such lien to be released of record pending the resolution of any dispute between the Contractor and the person or persons filing such lien. If the Contractor shall fail to furnish such satisfactory evidence within ten (10) days of the demand thereof, the Owner may discharge such indebtedness and deduct the amount thereof, together with any and all losses, costs, damages and attorney's fees suffered or incurred by the Owner from any sum payable to the Contractor under the Contract Documents, including but not limited to final payment and retained percentage. This Paragraph 9.5.6 shall be specifically included in all Subcontracts and purchase orders entered into by the Contractor. Notwithstanding any other provision of the Contract, nothing in the Contract shall affect the rights of Subcontractors, Sub-subcontractors, Material Suppliers and Vendors from enforcing any lien rights they have against parties other than the Owner.

9.6 PAYMENTS WITHHELD

9.6.1 The Design Consultant may decline to certify payment and may withhold their Certification of Payment in whole or in part, to the extent necessary to reasonably protect the Owner, if in the Design Consultant's opinion it is unable to make representations to the Owner as provided in Paragraph 9.4.3. If the Design Consultant is unable to make representations to the Owner as provided in Paragraph 9.4.3 and to certify payment in the amount of the Application for Payment, it will notify the Contractor as provided in Paragraph 9.4.1. If the Contractor and the Design Consultant cannot agree on a revised amount, the Design Consultant will promptly issue a Certification of Payment for the amount for which it is able to make such representations to the Owner. The Design Consultant may also decline to certify payment because of subsequently discovered evidence or subsequent observations that may nullify the whole or any part of any Certification of Payment previously issued to such extent as may be necessary in its opinion to protect the Owner from loss, because of:

1. Defective Work not remedied,
2. Third party claims filed, whether in court, in arbitration or otherwise, or reasonable evidence indicating probable filing of such claims,
3. Failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment,
4. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum,
5. Damage to the Owner or another contractor,
6. Reasonable evidence that Contractor will not achieve Substantial Completion and/or Final Completion by the dates specified in the Supplemental Conditions.
7. Failure or refusal of the Contractor to carry out the Work in accordance with or to otherwise substantially or materially comply with the Contract Documents,
8. Liens filed or reasonable evidence that a lien may be filed for any portion of the Work,
9. Failure or refusal of the Contractor to properly schedule and coordinate the Work, to provide progress schedules, reports and updates, or to provide a recovery schedule when required by the Contract,
10. Failure or refusal of the Contractor to fully comply with the provisions of Section 6.2 requiring the Contractor to direct certain Claims to Separate Contractors and to defend and indemnify the Owner and/or the Design Consultant in the event Separate Contractors file certain Claims,
11. Failure or refusal of the Contractor to submit the required information on Historically Underutilized Businesses (HUB's),
12. Failure or refusal of the Contractor to submit a notarized North Carolina State and County Sales Tax Report,
13. Any other breach of the Contract by Contractor which has or is likely to cause monetary

damages or loss to Owner, or

14. Any other reason authorized by the Contract Documents or by law.

9.6.2 When the above grounds in Paragraph 9.6.1 are removed to the Design Consultant's and Owner's satisfaction, payment shall be made for amounts withheld because of them.

9.6.3 Additional services and dispute resolution services by the Design Consultant for which the Contractor is responsible shall be paid by the Contractor at the rate of two hundred dollars (\$200) per hour.

9.7 FAILURE OF PAYMENT

9.7.1 If the Owner does not make payment to the Contractor within the forty-five (45) calendar days after receipt of the Contractor's approved Application for Payment from the Design Consultant through no fault of the Contractor, and the Owner otherwise not being entitled under the Contract Documents or applicable law to withhold payment, then the Contractor may, upon seven (7) additional days' Notice to the Owner, stop the Work until payment of the amount owed according to the Contract Documents has been received. In such event, the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, which shall be effected by appropriate Change Order as provided herein.

9.8 SUBSTANTIAL COMPLETION

9.8.1 When the Contractor considers that the Work, or a designated portion thereof which is acceptable to the Owner, is substantially complete as defined in Paragraph 8.1.3, the Contractor shall prepare for submission to the Owner a list of items which in his opinion are to be completed or corrected and shall request in writing that the Design Consultant and the Owner perform a Substantial Completion inspection. The Design Consultant and the Owner shall review the Contractor's list and shall compile a punch list of items to be corrected and completed. The failure to include any items on such list does not alter the responsibility of the Contractor to complete the Work in accordance with the Contract Documents. When the Design Consultant and the Owner on the basis of an inspection jointly determine that the Work or designated portion thereof is substantially complete, they will then prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and the Contractor for their written acceptance of the responsibilities assigned to them in such Certificate.

9.8.2 Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Design Consultant, the Owner shall make payment, except retainage held pursuant to Paragraph 9.3.2, for such work or portion thereof, as provided in the Contract Documents unless Contractor is in breach of the Contract in which case Owner may withhold an appropriate amount.

9.8.3 The acceptance of Substantial Completion payment shall constitute a waiver of all Claims by the Contractor and its Subcontractors and Sub-subcontractors except those previously made in

9.8.4

9.8.5 writing and identified by the Contractor as unsettled at the time the Contractor submits the

Application for Payment for Substantial Completion, and except for the retainage sums due at Final Completion. The Contractor shall indemnify and hold the Owner harmless against any Claims by its Subcontractors and Sub-subcontractors that are waived because they were not made in writing and identified by the Contractor as unsettled when the Contractor submitted the Application for Payment for Substantial Completion.

- 9.8.6 The Owner shall have the option to correct or conclude any and all punch list items not completed by the Contractor to the satisfaction of the Design Consultant and the Owner within thirty (30) days from the actual date of Substantial Completion by utilizing its own forces or by hiring others. The cost of such correction of remaining punch list items by the Owner or others shall be deducted from the final payment to the Contractor. If Contractor does not complete certain punch list items within this time period, specified in Paragraph 9.8.4, all warranties and guarantees for such incomplete punch list items shall become effective upon issuance of final payment for the Project. Paragraph 9.8.4 does not limit the Liquidated Damages provisions related to failure to reach Final Completion by the date stipulated in the Contract Documents.
- 9.8.7 The issuance of the Certificate of Substantial Completion does not indicate final acceptance of the Project by the Owner, and the Contractor is not relieved of any responsibility for the Project except as specifically stated in the Certificate of Substantial Completion.
- 9.8.8 Should the Design Consultant and the Owner determine that the Work or a designated portion thereof is not substantially complete, they shall inform the Contractor in writing stating why the Project or designated portion is not substantially complete. The Contractor shall expeditiously complete the Work and shall re-request in writing that the Design Consultant and the Owner perform a Substantial Completion inspection. Costs, if any, associated with such inspection shall be assessed to the Contractor.
- 9.8.9 Certificate of Substantial Completion will not be issued until the following is completed by Contractor:
1. Submit Contractor's list of work not yet complete with proposed time for completion signed by Contractor's project superintendent;
 2. Submit Certificate of Occupancy;
 3. Submit record drawings, maintenance manuals, final project photos, property surveys;
 4. Deliver tools, spare parts, extra stock and similar items;
 5. Submit warranties, bonds, maintenance agreements and final certifications;
 6. Complete start-up testing of all systems and instruction of the Owner's personnel;
 7. Coordinate and complete final changeover of permanent locks and transmit keys to Owner;
 8. Discontinue and remove temporary facilities from the site;
 9. Complete final cleaning;
 10. Advise the Owner of pending insurance changeover requirements;
 11. Coordinate and complete changeover of security, telephone, cable and other services; and

12. Submit pay application showing 100% complete for work claimed to be substantially complete.

9.8.10 The Contractor acknowledges that the Design Consultant and its consultants are only required to conduct up to two (2) comprehensive substantial completion inspections as part of its basic services. If more than two (2) substantial completion inspections are required through no fault of the Design Consultant, the cost of the additional inspections shall be paid by the Contractor.

9.9 FINAL COMPLETION AND FINAL PAYMENT

9.9.1 Upon receipt of the documentation required by Section 9.8, and of written Notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Design Consultant and the Owner will promptly make such inspection and, when they find the Work acceptable under the Contract Documents and the Contract fully performed, the Design Consultant shall issue a final Certification of Payment stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents. The final Certification of Payment will constitute that the conditions precedent to the Contractor's being entitled to final payment as set forth in Section 9.8 have been fulfilled. Payment shall be made to the Contractor in the amount certified by the Design Consultant within forty five (45) calendar days after receipt by the Owner of the final Certification of Payment except for any Work for which the Owner is entitled a credit under the Contract Documents.

9.9.1.1 The Contractor acknowledges that the Design Consultant and its consultants are only required to conduct up to two (2) comprehensive final completion inspections as part of its basic services. If more than two (2) final completion inspections are required through no fault of the Design Consultant, the cost of the additional inspections shall be paid by the Contractor.

9.9.2 Neither the final payment nor the remaining retained percentage shall become due until the Work is free and clear of any and all liens and the Contractor submits to the Owner:

1. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied;
2. Consent of Surety to final payment;
3. If required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Owner; and
4. A written certification that:
 1. The Contractor has reviewed the requirements of the Contract Documents,
 2. The Work has been inspected by the Contractor for compliance with all requirements of the Contract Documents,
 3. Pursuant to this inspection, the Contractor certifies and represents that the Work complies in all respects with the requirements of the Contract Documents,

4. The Contractor further certifies and represents that all equipment and systems have been installed in accordance with the Contract Documents and have been tested in accordance with the Specification requirements and are operational, and
5. The Contractor hereby certifies and represents that the Work is complete in all respects and ready for final inspection.

9.9.3 If any Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any loss. If any such lien or claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such lien or claims, including all costs and reasonable attorney's fees. The Owner may withhold from the final payment any sum that the Owner has reason to believe may be needed to satisfy any lien, claim or threat of lien arising from the Work. The Owner may deduct from the final payment an amount equal to any costs, expenses and attorney's fees incurred by the Owner in removing or discharging any liens or claim arising from the Work.

9.9.4 If, after Substantial Completion of the Work, Final Completion thereof is materially delayed through no fault of the Contractor or by the issuance of Change Orders affecting Final Completion, and the Owner so confirms, the Owner shall, upon application by the Contractor and certification by the Design Consultant, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for the portion of the Work not fully completed or corrected is less than the retainage stipulated in the Contract Documents, and if bonds have been furnished as provided in Section 7.4, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Design Consultant prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

9.9.5 The making of final payment shall constitute a waiver of all Claims by the Owner against the Contractor except those arising from:

1. Unsettled liens, and claims against the Owner or the Design Consultant, or their employees, agents, or representatives;
2. Faulty, defective or non-conforming Work;
3. Failure of the Work to comply with the requirements of the Contract Documents;
4. Terms of any warranties contained in or required by the Contract Documents;
5. Damages incurred by the Owner resulting from lawsuits brought against the Owner, the Design Consultant, or their agents, employees or representatives because of failures or actions on the part of the Contractor, his Subcontractors, Sub-subcontractors, or any of their employees, agents or representatives;
6. Fraud or bad faith committed by the Contractor or any Subcontractor or supplier during performance of the Work but discovered by Owner after final payment; or
7. Claims about which Owner did not have actual knowledge or which increase in scope or amount at the time of final payment.

- 9.9.6 The acceptance of final payment shall constitute a waiver of all Claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment.
- 9.9.6.1 Notwithstanding any other provision of the Contract, Owner may withhold from Contractor payment otherwise due, as a result of any losses, expenses costs or damages suffered or anticipated to be suffered by Owner as a result of Contractor's breach of any provision of the Contract, including but not limited to Liquidated Damages or backcharges against Contractor.
- 9.10 **OWNER'S RIGHT TO OCCUPY INCOMPLETE WORK**
- 9.10.1 Should the Project, or any portion thereof, be incomplete for Substantial or Final Completion at the scheduled date or dates, the Owner shall have the right to occupy any portion of the Project. In such an event, the Contractor shall not be entitled to any extra compensation on account of said occupancy by the Owner or by the Owner's use of the Project, nor shall the Contractor interfere in any way with said use of the Project. Further, in such an event, the Contractor shall not be entitled to any extra compensation on account of the Owner's occupancy and use of the Project, nor shall the Contractor be relieved of any responsibilities of the Contract including the required times of completion. Such occupancy by the Owner shall not, in itself, constitute Substantial or Final Completion.
- 9.10.2 If the Owner exercises his rights under the foregoing and occupies the full Project, then there shall be no Liquidated Damages on account of failure on the Contractor's part to reach Substantial Completion from that date forward. This provision does not affect, however, any Liquidated Damages that would be assessed for any period of time between the contractual date of Substantial Completion and the date of any such occupancy. Further, this provision would have no effect on Liquidated Damages assessed on account of late Final Completion.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

- 10.1 **SAFETY PRECAUTIONS AND PROGRAMS**
- 10.1.1 The Owner, the Design Consultant, or their agents, employees or representatives are not responsible for the means, methods, techniques, sequences or procedures utilized by the Contractor, or for safety precautions and programs in connection with the Work. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. This requirement applies continuously throughout the Contract performance, until final payment is made and all punch list and warranty work is performed properly, and is not limited to regular working hours.
- 10.2 **SAFETY OF PERSONS AND PROPERTY**
- 10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
- .1 All employees on the Work and all other persons who may be affected thereby;
 - .2 All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his

Subcontractors or Sub-subcontractors, machinery, equipment and all hazards shall be guarded or eliminated in accordance with all applicable safety regulations; and

- 3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and overhead or underground utilities not designated for removal, relocation or replacement in the course of construction.
- 10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, permits, rules, regulations and lawful orders of any public authority bearing on the safety or persons or property or their protection from damage, injury or loss.
- 10.2.2.1 The Contractor shall at all times safely guard the Owner's property from injury or losses in connection with the Contract. He shall at all times safely guard and protect his own work and adjacent property as provided by law and the Contract Documents, from damage. All passageways, guard fences, lights and other facilities required for protection by applicable safety regulations must be provided and maintained.
- 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.
- 10.2.4 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.
- 10.2.5 The Contractor shall promptly remedy at his own cost and expense all damage or loss to any property referred to in Subparagraphs 10.2.1.2 and 10.2.1.3 caused by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under Subparagraphs 10.2.1.2 and 10.2.1.3, except damage or loss attributable solely to the acts or omissions of the Owner or Design Consultant or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under Section 4.21. The Contractor shall perform such restoration by underpinning, repairing, rebuilding, replanting, or otherwise restoring as may be required or directed by the Owner, or shall make good such damage in a satisfactory and acceptable manner. In case of failure on the part of the Contractor to promptly restore such property or make good such damage, the Owner may, upon two (2) calendar days Notice, proceed to repair, rebuild or otherwise restore such property as may be necessary and the cost thereof, or a sum sufficient in the judgment of the Owner to reimburse the owners of property so damaged, will be deducted from any monies due or to become due the Contractor under the Contract.
- 10.2.6 The Contractor is responsible for the proper packing, shipping, handling and storage (including but not limited to shipment or storage at the proper temperature and humidity) of materials to be incorporated in the Work, so as to insure the preservation of the quality and fitness of the material for proper installation and incorporation in the Work, as required by the Contract Documents. For example, but not by way of limitation, Contractor shall, when necessary, place material on wooden platforms or other hard and clean surfaces and not on the ground and/or place such material under cover in any appropriate shelter or facility. Stored materials or equipment shall be located so as to facilitate proper inspection. Material and equipment which

is delivered crated shall remain crated until ready for installation. Lawns, grass plots or other private property shall not be used for storage purposes without the written permission of the Owner or lessee unless otherwise within the terms of the easements obtained by the Owner.

- 10.2.6.1 It shall be the responsibility of the Contractor in his preparation of phasing schedule of work operations after consulting with the other Prime Contractors to designate areas in which each Prime Contractor may store materials. Areas designed shall meet with the approval of the Design Consultant.
- 10.2.7 The Contractor shall give notice in writing at least forty eight (48) hours before breaking ground, to all persons, public utility companies, owners of property having structures or improvements in proximity to site of the Work, superintendents, inspectors, or those otherwise in charge of property, streets, water pipes, gas pipes, sewer pipes, telephone cables, electric cables, railroads or otherwise, who may be affected by the Contractor's operation, in order that they may remove any obstruction for which they are responsible and have representative on site to see that their property is properly protected. Such notice does not relieve the Contractor of responsibility for all damages, claims, or defense or indemnification of all actions against Owner resulting from performance of such work in connection with or arising out of Contract. The Contractor shall ensure that all appropriate safety precautions are taken when working near existing utilities.
- 10.2.8 The Contractor shall investigate, locate, mark and protect all utilities encountered or to be encountered while performing the Work, whether indicated on the Drawings or not. The Contractor shall maintain utilities in service until moved or abandoned. The Contractor shall exercise due care when excavating around utilities and shall restore any damaged utilities to the same condition or better as existed prior to starting the Work, at no cost to the Owner. The Contractor shall maintain operating utilities or other services, even if they are shown to be abandoned on the Contract Drawings, in service until new facilities are provided, tested and ready for use.
- 10.2.9 The Contractor shall return all improvements on or about the site and adjacent property which are not shown to be altered, removed or otherwise changed to conditions which existed prior to starting the Work. The Contractor shall video record all areas or otherwise document the conditions existing at the site and in and around existing buildings prior to starting the Work. Submit documentation to the Design Consultant prior to beginning the Work.
- 10.2.10 The Contractor shall protect the Work, including but not limited to, the site, stored materials and equipment, excavations, and excavated or stockpiled soil or other material, intended for use in the Work, and shall take all necessary precautions to prevent or minimize damage to same or detrimental effect upon his performance or that of his Subcontractors, caused by or due to rain, snow, ice, run-off, floods, temperature, wind, dust, sand and flying debris; for example, but not by way of limitation, Contractor shall, when necessary, utilize temporary dikes, channels or pumping to carry-off divert or drain water, and shall as necessary tie-down or otherwise secure the Work and employ appropriate covers and screens.
- 10.2.11 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents and the protection of material, equipment and property. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner.
- 10.2.12
- 10.2.12.1 In the event of accidents involving personal injury or property damage, the Contractor shall immediately notify the Owner and Design Consultant, furnishing as much data as is available.

As soon as practicable, the Contractor shall furnish to the Owner and Design Consultant a

written report indicating the extent of the damage, the persons involved, the employer of the persons involved, and the number of days each person was hospitalized.

- 10.2.13 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.
- 10.2.14 Notification to the Contractor by the Owner or the Design Consultant of a safety violation will in no way relieve the Contractor of sole and complete responsibility for the correctness of said violation or of sole liability for the consequences of said violation.

10.3 EMERGENCIES

- 10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. The Contractor shall notify the Owner of the situation and all actions taken immediately thereafter. If, in the opinion of the Contractor, immediate action is not required, the Contractor shall notify the Owner of the emergency situation and proceed in accordance with the Owner's instructions. Provided, however, if any loss, damage, injury or death occurs that could have been prevented by the Contractor's prompt and immediate action, the Contractor shall be fully liable for all costs, damages, claims, actions, suits, attorney's fees and all other expenses arising therefrom or relating thereto.

10.4 HAZARDOUS MATERIALS

- 10.4.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Design Consultant in writing.
- 10.4.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such hazardous material or substance is found to be present, to cause it to be rendered harmless or to verify that it has already been rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Design Consultant the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Design Consultant will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Design Consultant has a reasonable objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Design Consultant have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up if the affected Work is on the Project's critical path as demonstrated by the approved Project Schedule.

- 10.4.3 The Owner shall not be responsible under this Article 10.4 for materials or substances the Contractor or its subcontractor brings to the site.
- 10.4.4 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and/or negligently handles, or (2) where the Contractor fails to perform its obligations under Article 10.4, unless the cost and expense are due to the Owner's fault or negligence.

ARTICLE 11

INSURANCE

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 The Contractor shall purchase and maintain in companies properly licensed by the Insurance Department of the State of North Carolina and acceptable to the Owner such insurance as will protect him, the Owner, and the Owner's agents, representatives, and employees from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts (with Workmen's Compensation and Employer's Liability Insurance in amounts not less than those necessary to meet the statutory requirements of the state(s) having jurisdiction over any portion of the Work);
- .2 Claims for damages because of bodily injury, sickness or disease, or death of his employees; the Contractor will require his Subcontractors to similarly provide Workmen's Compensation Insurance for all of the latter's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;
- .4 Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
- .6 Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

11.1.2 The insurance required by Paragraph 11.1.1 shall be primary and non-contributing to any insurance possessed or procured by the Owner, and limits of liability shall be not less than those set forth in these General Conditions of the Contract or required by law, whichever is greater.

11.1.3 The insurance required by the Contract shall include contractual liability insurance applicable to the Contractor's obligations under the Contract

11.1.4 Without limiting the above during the term of the Contract, the Contractor and each

11.1.5

11.1.6 Subcontractor shall, at their own expense, purchase and maintain the following insurance with

companies properly licensed by the Insurance Department of the State of North Carolina and satisfactory to the Owner.

- .1 Worker's Compensation including Occupational Disease and Employer's Liability Insurance.
 - .1 Statutory - Amount and coverage as required by State of North Carolina Worker's Compensation laws.
 - .2 Employer's Liability
 - \$1,000,000 Each Accident
 - \$1,000,000 Policy Limit
 - \$1,000,000 Each Employee
- .2 Commercial General Liability (Occurrence Form) - The Contractor shall provide during the life of the Contract such Commercial General Liability (Occurrence Form) Insurance as shall protect him and any Subcontractor performing work under the Contract from claims for damages for Bodily Injury including accidental death, as well as from claims for Property Damage which may arise from operations under the Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by either of them. This insurance shall be on the Standard Insurance Services Office, Inc. (ISO) Commercial Liability Occurrence Form or other form reasonable acceptable to Owner. The Contractor shall procure insurance coverage for direct operations, sublet work, elevators, contractual liability and completed operations with limits not less than those stated below:
 - .1 A Combined Single Limit for Bodily Injury, Property Damage and Personal Injury of:
 - Limits of Insurance
 - \$2,000,000 General Aggregate (except Products – Completed Operations) Limit
 - \$2,000,000 Products – Completed Operations Aggregate Limit
 - \$1,000,000 Personal and Advertising Injury Limit
 - \$1,000,000 Each Occurrence Limit
 - .3 Property Damages, including Broad Form Property Damage and Explosion, Collapse, Underground property damage coverages, and blasting, where necessary;
 - .4 Completed Operations Liability: Continuous coverage in force for one year after completion of the Work;
 - .5 Commercial Automobile Insurance, including coverage for owned, non-owned and hired vehicles - with limits not less than those stated below:
 - .1 A Combined Single Limit for Bodily Injury and Property Damage of \$1,000,000.
 - .6 Umbrella Liability Insurance: Policy to "pay on behalf of the Insured"
 - Limits of Liability:
 - .1 Contract Amount: less than or equal to \$25,000,000:
 - Requires Umbrella Liability Insurance Limit of \$5,000,000.
 - .2 Contract Amount: greater than \$25,000,000:

Requires Umbrella Liability Insurance Limit of \$10,000,000.

- 11.1.7 The insurance required by Section 11.1 shall be written for not less than any limits of liability specified in the Contract Documents, or required by law, whichever is greater.
- 11.1.8 Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled until at least thirty (30) days' prior written Notice has been given to the Owner. Failure to provide such Notice shall not limit the liability of the Insurer, its agents or representatives.
- 11.1.9 All insurance policies required in this Article, except Worker's Compensation and Commercial Automobile, shall name the Owner as additional named insured for the insurance.
- 11.1.10 The Contractor shall not commence the Work under the Contract until he has obtained all the insurance required hereunder and such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved. Approval of the insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder.
- 11.1.11 The Commercial General Liability and Workers Compensation Policies provided by the Contractor shall have endorsements waiving subrogation against the Owner.

11.2 PROPERTY INSURANCE

- 11.2.1 The Contractor shall purchase and at all times maintain such insurance as will protect the Contractor, the Owner, Subcontractors and Sub-subcontractors from loss or damage to the Work or property in the course of construction, including all machinery, materials and supplies on the premises or in transit thereto and intended to become a part of the finished Work until Final Completion. This insurance shall be in the form of "Builders Risk Covered Cause of Loss Form", or equivalent form, to include but not limited to theft, collapse, earth movement, flood, and portions of the Work stored on site, off site and in transit. Any deductible provision in such insurance shall not exceed ten thousand dollars (\$10,000). Notwithstanding any such deductible provision, the Contractor shall remain solely liable for the full amount of any item covered by such insurance. Such insurance shall be in the initial Contract Sum and shall be increased at Contractor's expense in the amount of all additions to the Contract Sum. Such insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.
- 11.2.2 Any loss insured under Paragraph 11.2.1 is to be adjusted with the Owner and made payable to the Owner as trustee for the insureds, as their interests may appear, subject to the requirements of Paragraph 11.2.4. The Contractor shall pay each Subcontractor a just share of any insurance moneys received by the Contractor, and by appropriate agreement, written where legally required for validity, shall require each Subcontractor to make payments to his Sub-subcontractors in similar manner.
- 11.2.3 The Owner and Contractor waive all rights against each other for damages caused by fire or other perils to the extent their Claims are covered by insurance obtained pursuant to this Section 11.2, or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance. The Contractor shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Owner and the Contractor by Subcontractors and Sub-subcontractors. With respect to the waiver of rights of

recovery, the term Owner shall be deemed to include, to the extent covered by property insurance applicable thereto, his consultants, employees, and agents and representatives. The Contractor waives as against any Separate Contractor described in Article 6, all rights for damages caused by fire or other perils in the same manner as is provided above as against the Owner. The Owner shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Contractor by any Separate Contractor and his subcontractors and sub-subcontractors.

11.2.4 The Owner as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within five (5) days after the occurrence of loss to the Owner's exercise of this power, and if such objection is made, the matter shall be decided by a court of competent jurisdiction or as the parties in interest otherwise agree. The Owner as trustee shall, in that case, make settlement with the insurers in accordance with the orders of the court or as otherwise agreed by the parties in interest.

11.2.5 If the Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion thereof, such occupancy or use shall not commence prior to a time mutually agreed to by the Owner and Contractor and to which the insurance company or companies providing the property insurance have consented by endorsement to the policy or policies. This insurance shall not be canceled or lapsed on account of such partial occupancy or use. Consent of the Contractor and of the insurance company or companies to such occupancy or use shall not be unreasonably withheld.

11.2.6 The Contractor bears the risk of loss or damage to the Work, the Project, materials stored on site or off site, and Owner's improvements and property under Contractor's control, both during construction and prior to Substantial Completion.

11.3 EFFECT OF SUBMISSION OF CERTIFICATES

11.3.1 The Owner shall be under no obligation to review any Certificates of Insurance provided by the Contractor or to check or verify the Contractor's compliance with any and all requirements regarding insurance imposed by the Contract Documents. The Contractor is fully liable for the amounts and types of insurance required herein and is not excused should any policy or certificate of insurance provided by the Contractor not comply with any and all requirements regarding insurance imposed by the Contract Documents.

11.4 FAILURE OF COMPLIANCE

11.4.1 Should the Contractor fail to provide and maintain in force any and all insurance, or insurance coverage required by the Contract Documents or by law, or should a dispute arise between Owner and any insurance company of Contractor over policy coverage or limits of liability as required herein, the Owner shall be entitled to recover from the Contractor all amounts payable, as a matter of law, to Owner or any other parties, had the required insurance or insurance coverage been in force. Said recovery shall include, but is not limited to interest for the loss of use of such amounts of money, plus all attorney's fees, costs and expenses incurred in securing such determination and any other consequential damages arising out of the failure of the Contractor or insurance company to comply with the provisions of the Contract Documents, or any policy required hereby, or any other requirements regarding insurance imposed by law. Nothing herein shall limit any damages for which Contractor is responsible as a matter of law.

11.5 OWNER'S INSURANCE

11.5.1 Property Insurance: The Owner, at his option, may purchase and maintain such insurance as will insure him against loss of use of his property due to fire or other hazards, however caused.

11.5.2 Commercial Public Liability Insurance: The Owner, at his option, may purchase and maintain insurance which will insure and protect him against claims involving bodily injury and property damage to the public. The Owner does not request his insurer to waive any right of subrogation against the Contractor from claims under this coverage.

11.6 LICENSED INSURANCE COMPANIES

11.6.1 All insurance companies providing the above insurance shall be licensed by the Insurance Department of the State of North Carolina and have a minimum AM Best "A" rating or similar rating from another rating agency reasonably acceptable to Owner.

ARTICLE 12

CHANGES IN THE WORK

12.1 GENERAL PROVISIONS RELATED TO CHANGES

12.1.1 A Construction Change Directive is a document issued pursuant to this Paragraph 12.1.1. The Owner may, at any time, without the agreement of the Contractor, by written order signed by the Owner and Design Consultant designated or indicated to be a Construction Change Directive, make any Changes in the Work or add to or subtract from the Work within the general scope of the Contract. A Change in the Work is defined as changes within the general scope of the Contract, including, but not limited to changes:

- .1 In the Specifications or Drawings;
- .2 In the sequence, method or manner of performance of the Work;
- .3 In the Owner-furnished facilities, equipment, materials, services or site; or
- .4 Directing acceleration in the performance of the Work.

12.1.2 A Change Order is a document executed pursuant to this Paragraph 12.1.2. The Owner and Contractor may agree to Changes in the Work, the Contract Sum, the Contract Time and any other change in the Contract by written agreement signed by Owner, Contractor and Design Consultant designated or indicated to be a Change Order. If the Contractor, subsequent to the issuance of a Construction Change Directive, agrees to its terms including any applicable adjustment to the Contract Sum and Contract Time, Contractor shall sign it and it shall become a Change Order.

12.1.3 The Contractor shall not be entitled to any amount for indirect costs, damages or expenses of any nature, including, but not limited to, so-called "impact" costs, labor inefficiency, wage, material or other escalations beyond the prices upon which the Proposal is based and to which the parties have agreed pursuant to the provisions of Article 12, and which the Contractor, its Subcontractors or Sub-subcontractors or any other person may incur as a result of delays, interferences, suspensions, changes in sequence or the like, for whatever cause, whether

12.1.4

12.1.5 reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable, arising

from the performance of any and all Changes in the Work performed pursuant to this Article 12, unless the delay is caused solely by the Owner or its agent. It is understood and agreed that the Contractor's sole and exclusive remedy in the event the delay is caused solely by the Owner or its agent shall be recovery of his direct costs as compensable hereunder and an extension of the Contract Time, but only in accordance with the provisions of the Contract Documents. The phrase "Owner or its agent" as used in the Contract, does not include the Prime Contractors or their Subcontractors.

- 12.1.6 No Claim by the Contractor shall be allowed if asserted after final payment under this Contract. No Claim relating to or flowing from a particular change shall be allowed after execution of the Change Order relating to that change or commencement of the change by the Contractor except as specifically provided in Paragraph 12.2.4.
- 12.1.7 If any dispute should arise between the parties with respect to an increase or decrease in the Contract Sum or an expansion or contraction in the Contract Time as a result of a Change in the Work, the Contractor shall not suspend performance of a Change in the Work or the Work itself unless otherwise so ordered by the Owner in writing. The Owner shall, however, pay to the Contractor up to the Owner's reasonable estimated value of the Change in the Work, regardless of the dispute, if said Change in the Work will result in an increase in the Contract Sum; and the Owner shall have the right to withhold payment from the Contractor in an amount up to the Owner's reasonable estimated value of the Change in the Work, regardless of the dispute, if said Change in the Work will result in a decrease in the Contract Sum.
- 12.1.8 No Change in the Work shall be performed without a fully executed Change Order to the Contract a fully executed Construction Change Directive or other Modification to the Contract.
- 12.1.9 If the Contractor intends to assert a Claim under this Article, he must, within ten (10) days after receipt of a Construction Change Directive, Notify the Owner by written statement setting forth the specific nature and cost of such Claim, unless this period is extended by the Owner. The statement of Claim shall include all direct, indirect and impact costs associated with the change, as well as the Contractor's estimate of the schedule impact of the change, if any. The Contractor and its Subcontractors shall not be entitled to reimbursement for any Claims that are not submitted in strict conformance with the Contract. The Contractor shall indemnify and hold the Owner harmless against any Claims by Subcontractors that are waived because they are not submitted in strict conformance with the Contract.
- 12.2 OWNER DIRECTED CHANGES REQUIRING AN INCREASE IN CONTRACTSUM.
(For decreases in Contract Sum, refer to Section 12.6)
- 12.2.1 If the Change in the Work will result in an increase in the Contract Sum, the Owner shall have the right to require the performance thereof on a lump sum basis, a unit price basis or a time and material basis, all as hereinafter more particularly described (the right of the Owner as aforesaid shall apply with respect to each such Change in the Work).

If the Owner elects to have the Change in the Work performed on a lump sum basis, its election shall be based on a lump sum Proposal which shall be submitted by the Contractor to the Owner within ten (10) days of the Contractor's receipt of a request therefore (but the Owner's request for a lump sum Proposal shall not be deemed an election by the Owner to have the Change in the Work performed on a lump sum basis). The Contractor's Proposal shall be itemized and segregated by labor and materials for the various components of the Change in the Work (no aggregate labor total will be acceptable) and shall be accompanied by signed Proposals of any

Subcontractors who will perform any portion of the Change in the Work and of any persons who

will furnish materials or equipment for incorporation therein. The Proposal shall also include the Contractor's estimate of the time required to perform said changes. The Contractor shall provide any documentation that may be requested by the Owner or Design Consultant to support the change proposal, including but not limited to payroll records, insurance rates, material quotes, and rental quotes.

The portion of the Proposal relating to labor, whether by the Contractor's forces or the forces of any of its Subcontractors, may include reasonably anticipated gross wages of job site labor, including foremen, who will be directly involved in the Change in the Work (for such time as they will be so involved), plus payroll costs (including premium costs of overtime time, if overtime is anticipated, Social Security, Federal or State unemployment insurance taxes and fringe benefits required by collective bargaining agreements entered into by the Contractor or any such Subcontractor in connection with such labor) and up to fifteen percent (15%) of such anticipated gross wages, but not payroll costs, as overhead and profit for the Contractor or any such Subcontractor, as applicable (said overhead and profit to include all supervision except foremen). Payroll costs are limited to 39% of the net pay of the worker.

The portion of the Proposal relating to materials may include the reasonably anticipated direct costs to the Contractor or to any of its Subcontractors of materials to be purchased for incorporation in the Change in the Work, plus transportation and applicable sales and use taxes and up to fifteen percent (15%) of said direct material costs as overhead and profit for the Contractor or any such Subcontractor (said overhead and profit to include all small tools), and may further include the Contractor's and any of its Subcontractor's reasonably anticipated rental costs in connection with the Change in the Work (either actual or discounted local published rates), plus up to eight percent (8%) thereof as overhead and profit for the Contractor or any such Subcontractors, as applicable. The Contractor shall provide an itemized breakdown of all transportation and shipping costs, including receipts documenting the expenses. Notwithstanding the above, overhead and profit shall not be applied to any sales tax paid for any purpose or to any transportation or shipping costs incurred by the Contractor or any subcontractor. If any of the items included in the lump sum Proposal are covered by unit prices contained in the Contract Documents, the Owner may, if it requires the Change in the Work to be performed on a lump sum basis, elect to use these unit prices in lieu of the similar items included in the lump sum Proposal, in which event an appropriate deduction will be made in the lump sum amount prior to the application of any allowed overhead and profit percentages. No overhead and profit shall be applied to any unit prices.

The lump sum Proposal may include up to eight percent (8%) of the amount which the Contractor will pay to any of its Subcontractors for Changes in the Work as overhead and profit for the Contractor. The Contractor shall not be reimbursed for the costs of the Subcontractors' Payment and Performance Bonds, as such bonding is not required by the Owner.

- 12.2.2 In the event that the Contractor fails to submit his Proposal within the designated period, the Owner may order the Contractor to proceed with the Change to the Work and the Contractor shall so proceed. The Owner shall unilaterally determine the reasonable cost and time to perform the Work in question, which determination shall be final and binding upon the Contractor. The Contractor may dispute such action in accordance with the Article 15.
- 12.2.3 In the event that the parties are unable to agree as to the reasonable cost and time to perform the Change in the Work based upon the Contractor's Proposal and the Owner does not elect to have the Change in the Work performed on a time and material basis, the Owner may choose to make a determination of the reasonable cost and time to perform the Change in the Work, based upon

12.2.4

its own estimates, the Contractor's submission or a combination thereof. A Construction Change

Directive shall be issued in this case for the amounts of cost and time determined by the Owner and shall become final and binding upon the Contractor, subject to Contractor's right to dispute such action in accordance with Article 15. Owner has the right to direct by Construction Change Directive a Change in the Work, which is the subject of such Change Order. Failure of the parties to reach agreement regarding the cost and time of the performing the Construction Change Directive, shall not relieve the Contractor from performing the Change in the Work promptly and expeditiously.

12.2.3.1 The Owner reserves the right to reject the Contractor's Proposal for a Change in the Work and to elect to perform said Work using a Separate Contractor. Under such circumstances, all provisions of Article 6 shall be in force.

12.2.4 If the Owner elects to have the Change in the Work performed on a time and material basis, the same shall be performed, whether by the Contractor's forces or the forces of any of its Subcontractors or Sub-subcontractors, at actual cost to the entity performing the Change in the Work (without any charge for administration, clerical expense, supervision or superintendence of any nature whatsoever, including foremen, or the cost, use or rental of tools or plant), plus fifteen percent (15%) thereof as the total overhead and profit (except that said fifteen percent (15%) shall not be applied against any payroll costs, as set forth in Paragraph 12.2.1.) The Contractor shall submit to the Owner daily time and material tickets, on a daily basis to include the identification number assigned to the Change in the Work, the location and description of the Change in the Work, the classification of labor employed (and names and social security numbers), the materials used, the equipment rented (not tools) and such other evidence of cost as the Owner may require. The Owner may require authentication of all time and material tickets and invoices by persons designated by the Owner for such purpose. The failure of the Contractor to secure any required authentication shall, if the Owner elects to treat it as such, constitute a waiver by the Contractor of any Claim for the cost of that portion of the Change in the Work covered by a non-authenticated ticket or invoice; provided, however, that the authentication of any such ticket or invoice by the Owner shall not constitute an acknowledgment by the Owner that the items thereon were reasonably required for the Change in the Work.

12.2.5 No overhead and profit will be paid by the Owner on account of a Change in the Work except as specifically provided in Section 12.2. Overhead and profit, as allowed under Section 12.2, shall be deemed to include all costs and expenses which the Contractor or any of its Subcontractors may incur in the performance of a Change in the Work and which are not otherwise specifically recoverable by them pursuant to Section 12.2.

12.3 CONTRACTOR NOTICE OF CHANGE

12.3.1 If the Contractor or any of its Subcontractors asserts that any event or occurrence has caused a Change in the Work which change causes an increase or decrease in the Contractor's or its Subcontractors cost or the time required for the performance of any part of the Work under the Contract, including Work not affected directly by the change, the Contractor shall, within ten (10) days of such event, give the Owner written Notice as herein required. Said Notice shall include the instructions or circumstances that are the basis of the Claim and the Contractor's best estimate of the cost and time involved.

12.4 MINOR CHANGES IN THE WORK

12.4.1 The Owner shall have authority to order minor Changes in the Work not involving an adjustment

12.4.2

12.4.3

12.4.4 in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of

the Contract Documents. Such changes shall be effected by written order, and shall be binding

on the Owner and the Contractor. The Contractor shall carry out such written orders promptly.

12.4.5 The Contractor shall not perform any Changes in the Work unless authorized in writing by the Design Consultant or Owner.

12.5 DIFFERING SITE CONDITIONS

12.5.1 Should the Contractor encounter subsurface and/or latent conditions at the site materially differing from those shown on the Drawings or indicated in the Specifications or differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract, or different from that shown on surveys or tests provided in the bid materials at the time the Owner solicited bids from the construction of the Project, he shall immediately give Notice to the Owner of such conditions before they are disturbed. The Owner and the Design Consultant shall thereupon promptly investigate the conditions and if they find that they materially differ from those shown on the Drawings or indicated in the Specifications, they shall at once make such changes in the Drawings and/or Specifications as they may find necessary. Any increase or decrease of cost resulting from such changes shall be adjusted in the manner provided herein for adjustments as to extra and/or additional work and changes. However, neither the Owner nor the Design Consultant shall be liable or responsible for additional work, costs or Changes to the Work due to material differences between actual conditions and any geotechnical, soils and other reports, surveys and analyses made available for the Contractor's review at the time the Owner solicited bids for the construction of the Project.

12.6 OWNER DIRECTED CHANGES REQUIRING A DECREASE IN CONTRACT SUM.

12.6.1 If the Change in the Work will result in a decrease in the Contract Sum, the Owner may request a quotation by the Contractor of the amount of such decrease. The following provisions shall apply:

The portion of the Proposal relating to labor, whether by the Contractor's forces or the forces of any of its Subcontractors, shall include reasonably anticipated gross wages of job site labor, including foremen, who would have been directly involved in the Work that has been deleted from the Contract, (for such time as they would have been so involved), plus payroll costs (including premium costs of overtime time, if overtime was anticipated, Social Security, Federal or State unemployment insurance taxes and fringe benefits required by collective bargaining agreements entered into by the Contractor or any such Subcontractor in connection with such labor) and seven percent (7%) of such anticipated gross wages, but not payroll costs, as overhead and profit not incurred or earned by the Contractor or any such Subcontractor, as applicable (said overhead and profit to include all supervision except foremen).

The portion of the Proposal relating to materials shall include the reasonably anticipated direct costs which would have been incurred by the Contractor or to any of its Subcontractors of materials which would have been purchased for incorporation in the Work but which has been deleted from the Contract, plus transportation and applicable sales and use taxes which will be avoided and seven percent (7%) of said direct material costs as overhead and profit not incurred or earned by the Contractor or any such Subcontractor (said overhead and profit to include all small tools), and shall further include the Contractor's and any of its Subcontractor's reasonably anticipated rental costs which will be avoided (either actual or discounted local published rates), plus five percent (5%) thereof as overhead and profit not incurred or earned by the Contractor or any such Subcontractors, as applicable. If any of the items included in the lump sum Proposal are covered by unit prices contained in the Contract Documents, the Owner may elect to use

these unit prices in determining the amount of reduction to the Contract Sum as a result of a deletion of Work from the Contract. No overhead and profit shall be applied to any unit prices for purposes of calculation such reduction in the Contract Sum.

The lump sum Proposal for Work which would have been performed by any Subcontractors shall include four percent (4%) of that amount as an estimate of the Contractor's overhead and profit that will not be earned by Contractor due to the decrease in the Contract Sum.

The Contractor's quotation shall be forwarded to the Owner within ten (10) days of the Owner's request and, if acceptable to the Owner, shall be incorporated in the Change Order. If not acceptable, the parties shall make every reasonable effort to agree as to the amount of such decrease, which may be based on a lump sum properly itemized, on unit prices stated in the Contract Documents and/or on such other basis as the parties may mutually determine. If the parties are unable to so agree, the amount of such decrease shall be the total of the estimated reduction in actual cost of the Work, as determined by the Owner in its reasonable judgment, plus overhead and profits stated above. This shall become final and binding upon the Contractor, subject to Contractor's right to dispute such action in accordance with the Article 15.

ARTICLE 13

UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

13.1.1 If any portion of the Work is covered contrary to the request of the Owner or the Design Consultant or to requirements specifically expressed in the Contract Documents or to requirements of applicable construction permits, it must, if required in writing by the Owner, be uncovered for his observation and shall be replaced at the Contractor's expense.

13.1.2 If any other portion of the Work has been covered which the Design Consultant or the Owner has not specifically requested to observe prior to being covered, either may request to see such portion of the Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it is found that this condition was caused by the Owner, in which event the Owner shall be responsible for the payment of such costs. If such condition was caused by a Separate Contractor, Contractor may proceed against and only against, said Separate Contractor as provided in Article 6. Any costs to the Owner pursuant to this Paragraph shall be determined in accordance with the provisions of Article 12.

13.2 CORRECTION OF WORK

13.2.1 The Contractor shall promptly reconstruct, replace or correct portions of the Work rejected by the Design Consultant or Owner as defective or as failing to conform to the Contract Documents or as not in accordance with the guarantees and warranties specified in the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected portions of the Work, including compensation for the Design Consultant's and the Owner's additional construction management services made necessary thereby.

13.2.2 The Contractor, unless removal is waived by the Owner, shall remove from the site all portions

of the Work which are defective or non-conforming, or if permitted or required, he shall correct such portions of the Work in place at his own expense promptly after receipt of Notice, and such rejected Work shall not thereafter be tendered for acceptance unless the former rejection or requirement for correction is disclosed.

- 13.2.3 If the Contractor does not proceed with the correction of such defective or non-conforming portions of the Work within a reasonable time fixed by written Notice from the Owner or Design Consultant, the Owner may either (1) by separate contract or otherwise replace or correct such portions of the Work and charge the Contractor the cost incurred by the Owner thereby and remove and store the materials or equipment at the expense of the Contractor, or (2) terminate this Contract for default as provided in Section 14.3, or both, or take any other measure allowed by law.
- 13.2.4 The Contractor shall bear the cost of making good all work of the Owner or Separate Contractors destroyed or damaged by such correction or removal.
- 13.2.5 Nothing contained in this Section 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Section 4.6 hereof. The establishment of the time period of one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to his obligations.
- 13.3 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK
- 13.3.1 If the Owner prefers to accept defective or non-conforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable, or the Owner may elect to accept payment in materials or services, in lieu of a reduction in the Contract Sum. If the amount of a reduction is determined after final payment, it shall be paid to the Owner by the Contractor.

ARTICLE 14

TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

- 14.1.1 If the Work is stopped for a period of one hundred twenty (120) days by the Owner or under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, and through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, then the Contractor may, upon seven (7) additional days' written Notice to the Owner and the Design Consultant, terminate the Contract and recover from the Owner payment on a quantum merit basis, for all Work executed for which Contractor has not previously been paid, less any amounts Contractor may owe Owner under the Contract Documents and less any amounts Owner is entitled to withhold from Contractor or back charge to the Contractor under the Contract Documents or pursuant to law. The Contractor shall not be entitled to collect and hereby expressly waives any overhead or profit on Work not performed and any damages related to that

portion of the Contract which has been terminated.

14.2 TERMINATION FOR CONVENIENCE OF THE OWNER

14.2.1 The Owner may, at any time upon ten (10) days written Notice to the Contractor and to the Contractor's Surety, which Notice shall specify that portion of the Work to be terminated and the date said termination is to take effect, terminate (without prejudice to any right or remedy of the Owner) the whole or any portion of the Work for the convenience of the Owner. The Contractor's sole remedy, in the event of such termination, will be the allowable termination costs permitted by Section 14.4. Contractor shall include termination clauses identical to Article 14 in each of his subcontracts.

14.3 DEFAULT TERMINATION

14.3.1 Ten (10) days after written Notice is mailed to the Contractor and to the Contractor's Surety, the Owner may terminate (without prejudice to any right or remedy of the Owner or any subsequent buyer of any portion of the Work) the employment of the Contractor and his right to proceed either as to the whole or any portion of the Work required by the Contract Documents and may take possession of the Work and complete the Work by contract or otherwise in any one of the following circumstances:

- .1 If the Contractor or its Surety refuses or fails to prosecute the Work or any separable part thereof with such diligence as will ensure the Substantial and Final Completion of the Work by the dates specified in the Supplemental Conditions for Substantial and Final Completion or fails to complete the Work or remedy a default within said period;
- .2 If the Contractor is in material default in carrying out any provisions of the Contract;
- .3 If the Contractor fails to supply a sufficient number of properly skilled workers or proper equipment or materials;
- .4 If the Contractor fails to make prompt payment to Subcontractors or for materials or labor, unless he otherwise provides the Owner satisfactory evidence that payment is not legally due;
- .5 If the Contractor disregards laws, permits, ordinances, rules, regulations or orders of any public authority having jurisdiction, or fails to follow the instructions of the Owner;
- .6 If the Contractor substantially violates any provisions of the Contract Documents; or
- .7 If the Contractor refuses or fails to properly schedule, plan, coordinate and execute the Work, as specified herein, so as to perform the Work within the specified Completion Dates, or to provide scheduling or related information, revisions and updates as required by the Contract Documents.

14.3.2 The right of the Contractor to proceed shall not be so terminated under this Section 14.3 if the delays in the completion of the Work are due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor or his Subcontractors as specifically set forth in Section 8.3 hereof.

14.3.3 If, after the Contractor has been terminated for default pursuant to Section 14.3, it is determined that none of the circumstances set forth in Paragraph 14.3.1 exist, then such termination shall be

considered a termination for convenience pursuant to Section 14.2. In such case, the Contractor's sole remedy will be the costs permitted by Section 14.4.

- 14.3.4 If the Owner so terminates the employment of the Contractor due to the Contractor's default, the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the compensation to be paid to the Contractor hereunder shall exceed the expense of so completing the Work (including compensation for additional managerial, administrative, consultant and inspection services, attorney's fees and any damages for delay) such excess shall be paid to the Contractor.
- 14.3.5 If such expenses referenced in Paragraph 14.3.1, shall exceed the unpaid balance, the Contractor and his sureties shall be liable to the Owner for such excess. If the right of the Contractor to proceed with the Work is partially or fully terminated, the Owner may take possession of and utilize in completing the Work such materials, appliances, supplies, plant and equipment as may be on the site of the terminated portion of the Work and necessary for the completion of the Work. If the Owner does not fully terminate the right of the Contractor to proceed, the Contractor shall continue to perform the part of the Work that is not terminated.
- 14.3.6 If the Owner terminates the whole or any part of the Work pursuant to Section 14.3, the Owner may procure, upon such terms and in such manner as the Owner may deem appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the Owner for any excess costs for such similar supplies or services. The Contractor shall continue the performance of the Contract to the extent not terminated hereunder.

14.4 ALLOWABLE TERMINATION COSTS

- 14.4.1 If the Owner terminates the whole or any portion of the Work pursuant to Section 14.2, then the Owner shall only be liable to the Contractor for those costs reimbursable to the Contractor in accordance with Paragraph 14.4.2, plus a markup of ten percent (10%) for profit and overhead on the actual fully accounted costs specified under Paragraph 14.4.2; provided however, that if there is evidence that the Contractor would have sustained a loss on the entire Contract had it been completed, no profit or overhead shall be included or allowed hereunder for the Work performed and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss. Under no circumstances shall the Contractor be entitled to any loss profit on the Work terminated pursuant to Section 14.2.
 - 14.4.1.1 After receipt of a Notice of Termination, the Contractor shall submit to the Owner his termination Claim, in the form and with certification prescribed by the Owner. Such Claim shall be submitted promptly but in no event later than three (3) months from the effective date of termination, unless one or more extensions in writing are granted by the Owner upon request of the Contractor made in writing within such three (3) month period or authorized extension thereof. However, if the Owner determines that the facts justify such action, he may receive and evaluate any such termination Claim at any time after such three (3) month period or any extension thereof. Upon failure of the Contractor to submit his termination Claim within the time allowed, the Owner may determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and such termination shall be final and binding on the Contractor.
- 14.4.2 If the Owner terminates the whole or any portion of the Work pursuant to Section 14.2, the Owner shall pay the Contractor an amount for supplies, services, or property accepted by the Owner, and which is in accordance with the Contract Documents, in an amount as if the Contract had not been terminated. In addition, in such event, the Owner shall pay to Contractor an

amount representing Contractor's actual cost, excluding any overhead and profit for the items and things specified in Subparagraph 14.5.1.6 and not heretofore paid for, appropriately adjusted for any saving of freight or other charges. Under no circumstances shall the Contractor be entitled to any loss profit on the Work terminated pursuant to Section 14.2.

14.4.2.1 The Contractor agrees that neither the Owner nor the Design Consultant will be liable for payments to Contractors or Subcontractors pursuant to Section 14.4.2 unless each contract and subcontract contains termination provisions identical to those set forth in this Article 14. The Owner and the Design Consultant will not be liable to the Contractor or any of the Subcontractors for any costs associated with termination if the contract or subcontract of the party involved does not include the required termination language.

14.4.3 In arriving at any amount due the Contractor pursuant to Section 14.4, there shall be deducted the following:

- .1 All unliquidated advance or other payments on account theretofore made to the Contractor applicable to the terminated portion of the Contract;
- .2 Any Claim which the Owner may have against the Contractor;
- .3 Such amount as the Owner determines to be necessary to protect the Owner against loss because of outstanding or potential liens or claims; and
- .4 The agreed price for, or the proceeds of sale of, any materials, supplies or other things acquired by the Contractor sold, pursuant to the provisions of Subparagraph 14.5.1.7, and not otherwise recovered by or credited to the Owner, or returned for a refund by the Contractor.
- .5 All other amounts the Owner is entitled to withhold from the Contractor or charge to the Contractor pursuant to the Contract or as allowed by applicable law.

14.4.4 The total sum to be paid to the Contractor under Section 14.4 shall not exceed the Contract Sum as reduced by the amount of payments otherwise made or to be made for Work not terminated and as otherwise permitted by the Contract. Except for normal spoilage, and except to the extent that the Owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor, as provided in Paragraph 14.4.2, the fair value, as determined by the Owner, of property which is destroyed, lost, stolen or damaged so as to become undeliverable to the Owner, or to a buyer pursuant to Subparagraph 14.5.1.7.

14.5 GENERAL TERMINATION PROVISIONS

14.5.1 After receipt of a Notice of termination from the Owner, pursuant to Section 14.2 or 14.3, and except as otherwise directed by the Owner, 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 Contract as is not terminated;
- .3 Terminate all orders and subcontracts to the extent that they relate to the performance of

the Work terminated by the Notice of termination;

- .4 At the option of the Owner, and in lieu of terminating such orders and subcontracts, assign to the Owner in the manner, at the times and to the extent directed by the Owner in writing, all of the rights in the such orders and subcontracts,
- .5 Settle all outstanding liabilities and all Claims arising out of such termination or orders and subcontracts, with the approval or ratification of the Owner in writing, to the extent he may require, which approval or ratification shall be final for all the purposes of this Article;
- .6 Transfer title and deliver to the entity or entities designated by the Owner, in the manner, at the times and to the extent directed by the Owner to the extent specifically produced or specifically acquired by the Contractor for the performance of such portion of the Work as had been terminated, the following:
 - (1) The fabricated or unfabricated parts, Work in process, partially completed supplies and equipment, materials, parts, tools, dies, jigs and other fixtures, completed Work, supplies and other material produced as part of, or acquired in connection with the performance of, the Work terminated by the Notice of termination; and
 - (2) The completed or partially completed plans, drawings, information, releases, manuals and other property related to the Work and which, if the Contract had been completed, would have been required to be furnished to the Owner;
- .7 Use his best efforts to return for a refund or sell, in the manner, at the times, to the extent and at the price or prices directed or authorized by the Owner, any property of the types referred to in Subparagraph 14.5.1.6; provided, however, that the Contractor:
 - (1) Shall not be required to extend credit to any buyer, and
 - (2) May acquire any such property under the conditions prescribed by and at a price or prices approved by the Owner in writing; and provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under the Contract or shall otherwise be credited to the Contract Sum covered by the Contract or paid in such other manner as the Owner may direct;
- .8 Complete performance of such part of the Work as shall not have been terminated by the Notice of termination;
- .9 Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to the Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest; and
- .10 Otherwise mitigate any damages Contractor claims to suffer as a result of a termination.

14.5.2 The Contractor shall, from the effective date of termination until the expiration of three (3) years after final settlement under the Contract, preserve and make available to the Owner, at all reasonable times at the office of the Contractor, but without direct charge to the Owner, all his books, records, documents and other evidence bearing on the costs and expenses of the Contractor under the Contract and relating to the Work terminated hereunder, or, to the extent approved by the Owner, photographs, micro-photographs or other authentic reproductions

thereof.

- 14.5.3 If the termination, pursuant to Section 14.2, be partial, the Contractor may file with the Owner a Claim for an equitable adjustment of the price or prices specified in the Contract relating to the continued portion of the Contract (the portion not terminated by the Notice of termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices. Any Claim by the Contractor for an equitable adjustment under this Paragraph must be asserted within thirty (30) days from the effective date of the Notice of termination.
- 14.5.4 The Contractor shall refund to the Owner any amounts paid by the Owner to the Contractor in excess of costs reimbursable under Section 14.4.
- 14.5.5 The Contractor shall be entitled to only those damages and that relief from termination by the Owner as specifically provided in Article 14.

ARTICLE 15

DISPUTE RESOLUTION

15.1 INITIATING CLAIMS

- 15.1.1 Claims must be initiated by written Notice to the Owner and to the party against whom the Claim is made with a copy to the Design Consultant. The responsibility to substantiate Claims shall rest with the party making the Claim.
- 15.1.2 Nothing in the Contract shall be construed as meaning that the Owner's assessment of Liquidated Damages is a Claim as defined herein, or that the Owner has the burden of proof to assess Liquidated Damages. Should the Owner assess Liquidated Damages, the burden of proving that such damages should not have been assessed shall rest upon the Contractor.

15.2 RESOLUTION OF CLAIMS AND DISPUTES BETWEEN CONTRACTOR AND OWNER

- 15.2.1 Claims by Contractor against Owner and by Owner against Contractor, including those alleging an error or omission by the Design Consultant shall be subject to the process set forth in this Section 15.2. Such Claims shall be referred initially to the Design Consultant for a decision. A final decision by the Design Consultant, or the failure of the Design Consultant to issue a final decision shall be required as a condition precedent to mediation or litigation of all such Claims arising prior to the date final payment is due. The Design Consultant will initially decide disputes between Owner and Contractor.
- 15.2.2 The Design Consultant will review Claims by Contractor and Owner against each other and within twenty (20) days of the receipt of the written Claim and take one or more of the following actions:
- .1 Request additional supporting data from the claimant or a response with supporting data from the other party;
 - .2 Reject the Claim in whole or in part;
 - .3 Approve the Claim;
 - .4 Suggest a compromise; or

- 5 Advise the parties that the Design Consultant is unable to resolve the Claim if the Design Consultant lacks sufficient information to evaluate the merits of the Claim or if the Design Consultant concludes that it would be inappropriate for the Design Consultant to resolve the Claim.
- 15.2.3 In evaluating Claims made under this Section 15.2, the Design Consultant may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who assist the Design Consultant in rendering a decision.
- 15.2.4 If the Design Consultant requests a party to provide a response to a Claim under this Section 15.2, or to furnish additional supporting data, such party shall respond, within ten (10) days after receipt of such request, and shall within such time period, either provide a response to the requested supporting data, advise the Design Consultant when the response or supporting data will be furnished, or advise the Design Consultant that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Design Consultant will either reject or approve the Claim in whole or in part.
- 15.2.5 The Design Consultant will approve or reject Claims under this Section 15.2 by written decision, which shall state the reason thereof and which shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Design Consultant under this Section 15.2 shall be final and binding on the parties but subject to mediation and litigation.
- 15.2.6 When a written decision of the Design Consultant under this Section 15.2 states that the decision is final but subject to mediation, then a demand for mediation of a Claim covered by such decision must be made within thirty (30) days after the date on which the party making the demand receives the final written decision. Any failure to demand mediation within said thirty (30) days' period shall result in the Design Consultant's decision becoming final and binding to all parties. Claims not resolved in mediation shall be subject to litigation if in accordance with the applicable statutes of limitation and repose.
- 15.2.7 Upon receipt of a Claim under Section 15.2 against the Contractor or at any time thereafter, the Design Consultant or the Owner may, but is not obligated to, notify the Surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Design Consultant or the Owner may, but are not obligated to, notify the Surety and request the Surety's assistance in resolving the controversy.
- 15.2.8 If the Design Consultant deems that a Claim under this Section 15.2 is valid, the Design Consultant shall require all parties to the dispute to share the cost of the Design Consultant's review equitably. If the Design Consultant deems that a Claim under this Section 15.2 is invalid, the Design Consultant shall require the complaining party to bear the cost of the Design Consultant's review. In any event, the Design Consultant may require the complaining party to submit a deposit equivalent to the Design Consultant's hourly rate multiplied by the amount of time the Design Consultant estimates, in the Design Consultant sole discretion, that will be necessary to review the Claim. The Design Consultant shall return any unused portion of this initial deposit to the complaining party following the Design Consultant's completion of the Design Consultant's review of the Claim. Nothing in these procedures shall entitle the Design Consultant to compensation for additional services from the Owner that is not authorized pursuant to the terms and conditions of the Agreement for Design Consultant Services.

15.3 TIME LIMITS ON CLAIMS

15.3.1 Unless a shorter time is provided in the Contract Documents, Claims by Contractor or any party except Owner must be initiated within twenty (20) days after occurrence of the event giving rise to such Claim or within twenty (20) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims against the Owner shall be initiated in strict conformance with the Contract Documents. Nothing in these procedures shall extend the period within or the manner in which Claims against the Owner must be submitted. Claims must be initiated by written Notice to the Owner and written notice to the other party and to the Design Consultant. Any Claim against the Owner that is not initiated within the applicable time period is waived. Claims by Owner may be made at any time within the applicable statute of limitations and repose.

15.4 CONTINUING CONTRACT PERFORMANCE

15.4.1 Pending final resolution of a Claim, the Contractor shall proceed diligently with the performance of the Contract, unless instructed otherwise in writing by the Owner.

15.5 MEDIATION

15.5.1 As required by N.C.G.S 143-128 (f1), any Claim as defined herein, which exceeds fifteen thousand dollars(\$15,000.00), and which concerns a party involved in the Project, including the Owner, Contractor, Design Consultant, any construction manager, separate contractors, or first and lower tier Subcontractors and which arise out of the Contract or the construction process, except those waived Claims shall, be subject to mediation as a condition precedent to the institution of legal proceedings by any party, except that any party may institute legal proceedings or perfect any mechanic's or materialmen's lien in order to meet any applicable statute of limitations or similar deadline prior to engaging in mediation.

15.5.2 The parties shall endeavor to resolve their Claims under this Section 15.5 by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the rules established by the Owner.

15.5.3 The parties shall share cost of the mediation equally except that if the Owner is a party to the dispute, the Owner shall pay at least one third of the cost of the mediation.

15.5.4 The mediation shall be held in a place where the Project is located, unless another location is mutually agreed upon.

15.5.5 Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

15.5.6 The Owner's Dispute Resolution Policy required by N.C.G.S. § 143-128(f1) is contained in Policy 9030 (www.dpsnc.net). The Dispute Resolution Policy is also included in the bid and contract documents.

END OF GENERAL CONDITIONS

SUMMARY OF WORK

PART 1 - GENERAL

.1 RELATED DOCUMENTS

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

.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project is: Auditorium Renovations CC Spaulding Elementary
 - 1. Project Location: 1531 S. Roxboro Street Durham NC
 - 2. Owner: Durham Public Schools
- B. Contract Documents, 3.7.24
- C. The Work generally includes: Interior renovations including but not limited new seating, new finishes, new lighting and sound equipment

.3 CONTRACTOR USE OF PREMISES

- A. Refer to Special Project Procedures Section 01 35 13 and Work Restrictions 01 14 00.

.4 OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate owner usage. Perform the Work so as not to interfere with the Owner's operations.

.5 MISCELLANEOUS PROVISIONS

- A. Owner will remove existing furniture

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 11 00

SUMMARY OF WORK

Section 01 11 00

WORK RESTRICTIONS Section 01 14 00

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, general provisions of the Contract, including General Conditions, other Division 1 Specification Sections, and all other contract bid documents apply to this Section.

1.2 USE OF PREMISES

- A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.
 - 1. Limits: Confine constructions operations to comply with Durham Public Schools security badge system.
 - 2. Durham Public Schools Occupancy: Allow for Durham Public Schools occupancy of site according to the Project Plan.
 - 3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Durham Public Schools, Durham Public Schools employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.3 SUMMARY

- A. This Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.
- B. Specific requirements of each contract are also indicated in individual Specification Sections, All Bid Documents and on Drawings.

1.4 OCCUPANCY REQUIREMENTS

- A. Full Durham Public Schools Occupancy: Durham Public Schools will occupy site and existing building during entire construction period. Cooperate with Durham Public Schools during construction operations to minimize conflicts and facilitate Durham Public Schools usage. Perform the Work so as not to interfere with Durham Public Schools' operations.
- B. Partial Durham Public Schools Occupancy: Durham Public Schools reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.

1.5 SPECIAL REQUIREMENTS

WORK RESTRICTIONS Section 01 14 00

- A. Prime and subcontractors are required to comply with Article 2 of Chapter 64 of the North Carolina General Statutes, including but not limited to, the use of E-Verify to verify the legal employment status of its employees.

Each prime and subcontractor shall sign and return their Affidavit of E-Verification to Durham Public Schools at the time they return their contract.

If at any time during the project additional workers are hired by the prime or subcontractor, the prime or subcontractor shall notify Durham Public Schools, sign and return an Affidavit of E-Verification prior to the new hire beginning work on the project.

If at any time during the project additional prime or subcontractors are added to the project, Durham Public Schools shall be notified, and the new prime or subcontractor shall sign and return an Affidavit of E-Verification prior to commencing work on the project.

- B. Criminal Background Investigations of individuals working on school property (sites occupied with students and sites not occupied with students).
- C. At a minimum, the contractor shall obtain a complete North Carolina statewide criminal background investigation for all employees and subcontractors who will work on this project, covering a period for the last seven (7) years. In the event that the contractor or subcontractor is from out of state, the criminal background investigation shall be broadened to include their home state, as well as the state of North Carolina as outlined above. The company providing such information must be recognized by local law enforcement agency as qualified to do so. All costs associated with these criminal background checks is the responsibility of the contractor.

Each prime contractor will be responsible for all their employees and all of their subcontractors working under them.

On sites that are occupied with students and staff, a daily sign-in sheet will be presented by each prime contractor to the principal and SRO – Student Resource Officer by 9:00 a.m. each morning. If there is no SRO – provide to the Principal. This list will contain the name of each person on site and the company they work for.

On sites that are new or unoccupied by students and staff – each prime contractor will provide the daily sign-in sheet to the Owner’s Rep who will be designated by the Owner at the Pre-Construction Meeting.

The daily sign in log will be made available to the successful prime contractors at the Pre-Construction Meeting.

- D. Any individual with the following criminal convictions or pending charges will **NOT** be permitted on any school project or property.

Child molestation or abuse;

1. Child molestation or abuse;
2. Child pornography;
3. Repeated domestic violence charges or convictions;
4. Rape or felony sexual assault;
5. Any sexually oriented crime;

WORK RESTRICTIONS Section 01 14 00

6. Drugs: Felony use, possession or distribution within the last 10 years;
 7. Carjacking or automotive theft;
 8. Felonies involving firearms or other deadly weapons;
 9. Felony arson or destruction of property;
 10. Felony theft, burglary, home invasion or robbery;
 11. Felony racketeering or extortion;
 12. Felony kidnapping;
 13. Felony assault, battery, homicide, murder, attempted murder or other violent felony; or Hate crimes.
- E. Any individual with a prior conviction or pending charges contained in the aforementioned list, shall be banned (not allowed) from any school project or property.
- F. Each person on site must wear a plastic laminated identification badge that identifies the name of the company and the person's name. These badges are to be computer produced at a font large enough to be clearly visible. All costs associated with these criminal background checks is the responsibility of the contractor. The ID badge template will be made available to the successful prime contractors at the Pre-Construction Meeting.
- G. Durham Public Schools, may, at any time, request verification of criminal background investigation for any employee or subcontractor on school property.
- H. There is a NO TOBACCO policy on all property owned by Durham Public Schools. Therefore, use of any type of tobacco product is prohibited. Workers will be asked to leave the site for the balance of the day on their first offense. Workers will be asked to permanently leave the site after the first offense.
- I. If, in the opinion of the Architect, the General Contractor does not properly water tight the building from the elements – the Owner maintains the right to call in a 3rd party Industrial Hygienist for the purpose of evaluating the infiltration of moisture. This Industrial Hygienist will prepare a report of corrective action necessary to prevent future mold and mildew issues and the General Contractor is solely responsible for the corrective action necessary, as well as all costs associated with the services of the Industrial Hygienist and any additional surface or air quality testing fees that may be required to insure a safe building. No finishes, including drywall work are to commence until the building is permanently enclosed.
- J. All contractors understand and agree that the primary use of an occupied school facility is for the instructional programming to benefit the achievement of the students enrolled in said facility. During periods of standardized and other major testing such as EOG's, etc.. the contractors agree to pursue quiet operations that do not disturb the testing operations. No claims for delay will be considered for these days of quiet operation during periods of testing.
- K. In the event the contractor fails to meet their schedule and this failure to meet the scheduled completion dates affect the delivery of Owner furnished furniture and / or equipment – the Owner has the right (at the sole expense of the contractor) to procure the services of security guards to protect furniture and / or equipment that has been delivered to the project until such time as contractor has met the requirements for the Owner's permanent occupancy of the building (Substantial Completion). The Contractor further agrees that they will pay for all handling, shipping and storage costs associated with the storage of furniture and equipment that cannot be

WORK RESTRICTIONS Section 01 14 00

delivered and placed in the building due to the Contractor's failure to meet the scheduled completion dates.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 14 00

ALLOWANCES Section 01 21 00

Auditorium Renovations CC Spaulding Elementary

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. The Drawings and provisions of the General Conditions, Supplementary General Conditions, and other Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.
- B. Designate in Pay Requests and Schedule of Values separate item for cost allowances. Also breakdown costs as follows:
 - 1. Products/materials
 - 2. Work

1.2 ALLOWANCES FOR PRODUCTS/MATERIAL:

- A. Purchase product/material under allowance only as directed by A/E.
- B. Amount of allowance includes:
 - 1. Net cost of product.
 - 2. Delivery to the site.
 - 3. Applicable taxes.
- C. In addition to amount of allowance, include in bid, for inclusion in Contract Sum, Contractor's cost for:
 - 1. Handling at site including unloading, uncrating, and storage.
 - 2. Protection from elements, from damage.
 - 3. Labor, installation, and finishing.
 - 4. Other expenses (e.g., testing, adjusting, and balancing) required to completed installation.
 - 5. Overhead and profit.

1.3 ALLOWANCES FOR WORK

- A. Provide Work under allowance only as directed by A/E.
- B. Amount of Allowance includes:
 - 1. Net cost of product.
 - 2. Delivery to the site.
 - 3. Applicable taxes.
 - 4. Handling at site including unloading, uncrating, and storage.
 - 5. Protection from elements, from damage.
 - 6. Labor, installation, and finishing.
 - 7. Other expenses required to complete installation.

ALLOWANCES Section 01 21 00

8. A fixed percentage for overhead and profit. Overhead shall include supervision; superintendence; wages of time-keepers, watchmen, and clerks; hand tools, general office expense; and other expenses not included in "cost" under 1. Through 8. Above.
 - a) For Work (labor, materials, and equipment) completed by the Contractor with his own labor, 10 percent shall be added for overhead and profit.
 - b) For Work (labor, materials, and equipment) completed by subcontractor of the Contractor, 5 percent shall be added for overhead and profit.

14 SELECTION OF PRODUCT/MATERIAL

A. Architect/Engineer's Duties

1. Consult with Contractor in consideration of product/material and suppliers.
2. Make selection, designate product/material to be used.
3. Notify Contractor in writing, designating:
 - a) Product, size, color, and texture
 - b) Supplier
 - c) Cost, delivered at site

B. Contractor's Duties

1. Assist A/E in determining qualified suppliers.
2. Obtain proposals from suppliers when requested by Architect/Engineer.
3. Make appropriate recommendations for consideration by Architect/Engineer.
4. Notify A/E in writing, of effect anticipated by selection of product or supplier under consideration on:
 - a) Construction Schedule.
 - b) Contract Sum.
5. On notification of selection enter into purchase agreement with designated supplier.
6. Arrange for delivery and unloading.
7. Promptly inspect product for damage or defects.
8. Submit claims for transportation damage.

15 ADJUSTMENT OF CASH ALLOWANCES

- A. Unused amounts of moneys included under allowances shall be credited to the Owner by deduct change order prior to approval of Final Application for Payment.

PART 2 – PRODUCTS (NOT APPLICABLE)

ALLOWANCES Section 01 21 00

PART 3 – EXECUTION

3.1 RENOVATION/UNFORESEEN ALLOWANCE

- A. Renovation/Unforeseen Allowance for those items and Work hidden, undetectable, or unforeseen and not visible from pre-bid, on-site observation, or not shown, called-for, or reasonably implied in the Contract Documents and which is in compliance with N.C. Building Code and Division of Facility Services requirements. Refer to Schedule at end of section.

3.2 UNKNOWN/UNFORESEEN SITE CONDITIONS ALLOWANCE:

- A. Unknown/Unforeseens Site Conditions Allowance for wetlands, groundwater & additional erosion control measures required by local code enforcement officials and those subsurface items and Work hidden, undetectable, or unforeseen and not visible from pre-bid, on-site observation, or not shown, called-for, or reasonably implied in the Contract Documents and which is in compliance with N.C. Building Code and Division of Facility Services requirements. Refer to Schedule at end of section.
- B. Other conditions shall be addressed as they are discovered and their remedies are established.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowances for Work: Note: If not described below, refer to Article 1.3 for description of what is included in the allowance.

Allowance No. 1: 3.1

Schedule of Allowances

- A. Quantity Allowance

General: The Contractor shall include the following quantity allowances in the Base Bid, **based upon the unit prices listed in section 012200 and attached to the Bid Form of Proposal.**

n/a

ALLOWANCES Section 01 21 00

B.	Lump Sum Allowance	
1.	Cash Contingency Allowance	\$45,000.00
2.	Finish Hardware	\$5,000.0

END OF SECTION 01 21 00

UNIT PRICES Section 01 22 00

Auditorium Renovations CC Spaulding Elementary

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, general provisions of the Contract, including General Conditions, other Division 1 Specification Sections, and all other contract bid documents apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Specific requirements of each contract are also indicated in individual Specification Sections, All Bid Documents and on Drawings.
- C. Unit price is an amount proposed by bidders, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

UNIT PRICES Section 01 22 00

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit. Unit Prices represent a full and total cost for the listed unit. Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
Measurement: The quantity of unsuitable soil or rock and any fill (mass or trench) to be paid for will be the actual number of "Bank" cubic yards removed as measured by the Owner's Testing Agency.
- B. Durham Public Schools reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Durham Public Schools' expense, by an independent surveyor acceptable to Contractor. If the findings are that the Contractor's measurement of work-in-place is inaccurate, the Contractor shall bear the responsibility for said survey.
- C. List of Unit Prices: A list of unit prices is included in this section. Specification Sections referenced in the schedule contain requirements for materials described under each unit price. The bidder(s) shall submit a completed unit price sheet along with the bid. Failure to include unit prices as required may be grounds for rejection of the bid.
- D. Unit Prices found to be unreasonable in cost may constitute grounds for rejection of the bid.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES **(INCLUDE WITH BID)**

UNIT PRICES APPLICABLE TO ALL CONTRACTORS

UNIT PRICES Section 01 22 00

Unit Price 1 Plaster Repair, in place

\$_____per Square Yard.

Unit Price 2 Painting, in place

\$_____per Square Yard.

UNIT PRICES Section 01 22 00

END OF SECTION 01 22 00

ALTERNATES Section 01 23 00

Auditorium Renovations CC Spaulding Elementary

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, general provisions of the Contract, including General Conditions, other Division 1 Specification Sections, and all other contract bid documents apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.
- B. Specific requirements of each contract are also indicated in individual Specification Sections, All Bid Documents and on Drawings.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

ALTERNATES Section 01 23 00

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Prior to award of the Contract, the Architect will notify each party involved, in writing, of the status of each alternate. The Architect will indicate if alternates have been accepted, rejected, or deferred for later consideration. The Contractor agrees to honor pricing on Bid Alternates for a period of 120 calendar days.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. The Bid Documents contain technical requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

Alternate No 1. Add to include installation of vertical wheelchair lift as indicated on drawings and specified herein. See Section 144216.

Alternate No 2 . Add/Deduct to change to Un-upholstered Fixed Seating as indicated on drawings and specified herein. See Section 125229.

Alternate No. 3. : Add/Deduct to change the floor finish under new seating from painted concrete to polished concrete as indicated on drawings and specified. See Section 033500

END OF SECTION 01 23 00

ALTERNATES

SUBSTITUTIONS PROCEDURES

PART 1 - GENERAL

.1 RELATED DOCUMENTS

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

.2 SUMMARY

- A.** This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- B.** The Contractor's Construction Schedule and the Schedule of Submittals are included under Section "Submittals."
- C.** Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.
- D.** Procedural requirements governing the Contractor's selection of products and product options are included under Section "Materials and Equipment."

.3 DEFINITIONS

- A.** Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B.** Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered requests for "substitutions." The following are not considered substitutions:
 - 1.** Substitutions requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
 - 2.** Revisions to Contract Documents requested by the Owner or Program Manager.
 - 3.** Specified options of products and construction methods included in Contract Documents.
 - 4.** The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

.4 SUBMITTALS

- A.** Substitution Request Submittal: Requests for substitution will be considered if received within 30 days after commencement of the Work. Requests received more than 30 days after commencement of the Work may be considered or rejected at the discretion of the Program Manager.
 - 1.** Submit 3 copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.

SUBSTITUTIONS PROCEDURES

2. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - c. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors, that will become necessary to accommodate the proposed substitution.
 - d. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - e. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - f. Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.
3. Program Manager's Action: Within one week of receipt of the request for substitution, the Program Manager will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the Program Manager will notify the Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name. Acceptance will be in the form of a Change Order.

PART 2 - PRODUCTS

.1 SUBSTITUTIONS

- A. Conditions: The Contractor's substitution request will be received and considered by the Program Manager when one or more of the following conditions are satisfied, as determined by the Program Manager; otherwise requests will be returned without action except to record noncompliance with these requirements.
 1. Extensive revisions to Contract Documents are not required.
 2. Proposed changes are in keeping with the general intent of Contract Documents.
 3. The request is timely, fully documented and properly submitted.
 4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
 5. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.

SUBSTITUTIONS PROCEDURES

6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 7. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Program Manager for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.
 8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.
 9. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.
 10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.
- B. The Contractor's submittal and Program Manager's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 25 00

MODIFICATION PROCEDURES

PART 1 - GENERAL

1. RELATED DOCUMENTS

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

2. SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Submittals" for requirements for the Contractor's Construction Schedule.
 - 2. Division 1 Section "Applications for Payment" for administrative procedures governing Applications for Payment.
 - 3. Division 1 Section "Product Substitutions" for administrative procedures for handling requests for substitutions made after award of the Contract.

3. MINOR CHANGES IN THE WORK

- A. The **Program Manager** will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time.

4. CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: The **Program Manager** will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal requests issued by the **Program Manager** are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
 - 2. Within 10 days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the **Program Manager** for the Owner's review.
 - a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Program Manager.

MODIFICATION PROCEDURES

1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Comply with requirements in Section "Product Substitutions" if the proposed change requires substitution of one product or system for a product or system specified.
- C. Proposal Request Form: Use **Change Order Proposal Form** for Change Order Proposal Requests.
1. Include sufficient documentation of quantities and unit prices to allow evaluation of quantities with respect to the work required and the intent of the change. Require subcontractors to provide comparable documentation for their work.
 2. Do not use lump sum pricing for any trade or subcontract in excess of \$500.00.
 3. Permit charge for overhead and profit determined as follows:
 - a. for the Contractor, for any work performed by his employees or agents 10% of the costs. Deduct 5% for deductive change orders;
 - b. for the Contractor, for work performed by his Subcontractor, 5% of the amount due the subcontractor; and
 - c. for each Subcontractor, for work performed by such Subcontractor, his employees and agents, 10% of the costs.
 - d. "Costs" shall not include home-office charge or expenses, supervisions, superintendents, wages of time keepers, watchmen and clerks, small tools, incidentals, general office expense and all other expenses generally constituting overhead or general conditions. The proposals from the contractor for extra work shall include a breakdown showing cost for materials, labor, insurance and overhead and profit and bonds.
 4. The maximum total combined markup for bonds and insurance will be two (2) percent of the total amount.

.5 ALLOWANCES

- A. Allowance Adjustment: For allowance-cost adjustment, base each Change Order Proposal on the difference between the actual purchase amount and the allowance, multiplied by the final measurement of work-in-place. Where applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in the purchase amount only where indicated as part of the allowance.
 2. When requested, prepare explanations and documentation to substantiate the margins claimed.
 3. The Owner reserves the right to establish the actual quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or the Contractor's handling, labor, installation, overhead, and profit. Submit claims within 21 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. The Owner will reject claims submitted later than 21 days.

MODIFICATION PROCEDURES

1. Do not include the Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in Contract Documents.
2. No change to the Contractor's indirect expense is permitted for selection of higher or lower-priced materials or systems of the same scope and nature as originally indicated.

.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the **Program Manager** may issue a Construction Change Directive. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

.7 CHANGE ORDER PROCEDURES

- A. Upon the Owner's approval of a Proposal Request, the Program Manager will issue a Change Order for signatures of the Owner and the Contractor.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 26 00

Request for Information

Date: _____

Auditorium Renovations
CC Spaulding 1531 S.
Roxboro St. Durham NC

To: ButePLLC

PO Box 2833
919.4919105

RFI Number 179-2324-725

In reference to the above listed project, we are hereby requesting a clarification, determination and/or information concerning the following:

Section Number: _____ Drawing Number: _____

Requested By: _____ Date of Request: _____

Title: _____ Date Reply Required: _____

In reply to your request, be advised: _____

Reply By: _____ Date of Reply: _____

Title: _____ Date Reply Returned: _____

PAYMENT PROCEDURES

PART 1 - GENERAL

.1 RELATED DOCUMENTS

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

.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
 - 1. Schedules: The Contractor's Construction Schedule and Submittal Schedule are specified in Division 1 Section "Submittals."

.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's Construction Schedule.
 - b. Application for Payment forms, including Continuation Sheets.
 - c. Schedule of allowances.
 - d. List of products.
 - e. List of principal suppliers and fabricators.
 - f. Schedule of submittals.
 - 2. Submit the Schedule of Values to the **Program Manager** at the earliest possible date but no later than 7 days before the date scheduled for submittal of the initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of the **Bate** PLLC
 - c. Project number.
 - d. Contractor's name and address.

PAYMENT PROCEDURES

- e. Date of submittal.
2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
6. **Provide a separate line item in the Schedule of Values for each of the following items with the corresponding values and dollar amounts:**
 - **As-Built Drawing Documents** **1/2 % of total contract value**
 - **O & M Manuals** **1/2 % of total contract value**
 - **Warranty Binders** **1 % of total contract value**
7. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
9. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

PAYMENT PROCEDURES

4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the **Program Manager** and paid for by the Owner.
1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: The date for each progress payment application is the seventh day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 7 days prior to the date for each progress payment.
- C. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment. Use the Sales Tax form to report applicable state and county sales taxes. Include a completed Payment Application Cover Sheet with each application.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The **Program Manager** will return incomplete applications without action.
1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Sales Tax Summary – The project is subject to a sales tax rebate for the Owner. Each contractor and subcontractor shall submit a summary of payments made and invoices received including sales taxes for the month being billed. Each contractor shall maintain these accounts on the form included in this project manual entitled Certificate Concerning North Carolina State and County Sales Tax (hereinafter referred to as the “Sales Tax Form”). All supporting documentation is required on a monthly basis along with the payment application. Supporting documentation is identified on the form. When the Contractor submits multiple Sales Tax Forms, he shall also provide a notarized summary form that lists each Subcontractor and the taxes reported by that subcontractor. A total for each column shall be computed and reported on this summary sheet. This summary sheet shall be the first sheet of the sales tax reports submitted.
- F. Transmittal: Submit two (2) signed and notarized original copies of each Application for Payment (including separately notarized sales tax reports) to the **Program Manager** by a method ensuring receipt within 24 hours. Both copies shall be complete, including waivers of lien and similar attachments, when required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Program Manager.
- G. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from subcontractors, sub-subcontractors and suppliers for the construction period covered by the previous application.

PAYMENT PROCEDURES

2. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item. Retainage is to be calculated at a rate of 5% and will be withheld in accordance with the requirements set forth in the N.C. General Statutes
 3. When an application shows completion of an item, submit final or full waivers.
 4. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
 5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.
- H. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
1. List of subcontractors.
 2. List of principal suppliers and fabricators.
 3. Schedule of Values.
 4. Contractor's Construction Schedule (preliminary if not final).
 5. Schedule of principal products.
 6. Submittal Schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from governing authorities for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction meeting.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
 15. Data needed to acquire the Owner's insurance.
 16. Initial settlement survey and damage report, if required.
 17. Completed Payment Application coversheet, and all items itemize thereon.
- I. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals.
 - b. Warranties (guarantees) and maintenance agreements.
 - c. Test/adjust/balance records.
 - d. Maintenance instructions.
 - e. Startup performance reports.
 - f. Final cleaning.
 - g. Application for reduction of retainage and consent of surety.
 - h. Advice on shifting insurance coverages.
 - i. Final progress photographs.

PAYMENT PROCEDURES

- j. List of incomplete Work, recognized as exceptions to **Program Manager's** Certificate of Substantial Completion.
- J. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
 - 1. Completion of Project closeout requirements.
 - 2. Completion of items specified for completion after Substantial Completion.
 - 3. Ensure that unsettled claims will be settled.
 - 4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
 - 5. Transmittal of required Project construction records to the Owner.
 - 6. Proof that taxes, fees, and similar obligations were paid.
 - 7. Removal of temporary facilities and services.
 - 8. Removal of surplus materials, rubbish, and similar elements.
 - 9. Submit Appendix E MBE Documentation for Contract Payments as documentation of payment to minority businesses for work on the Project.
 - 10. Submit Lien Waivers from subcontractors and major equipment suppliers.
 - 11. Submit Affidavit of Payment of Debts and Claims with all supporting documentation.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 00 62 76

PROJECT MANAGEMENT & COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, general provisions of the Contract, including General Conditions, other Division 1 Specification Sections, and all other contract bid documents apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Conservation.
 - 3. Coordination Drawings.
 - 4. Administrative and supervisory personnel.
 - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Specific requirements of each contract are also indicated in individual Specification Sections, All Bid Documents and on Drawings.

1.3 COORDINATION

- A. Coordination: The General Contractor shall coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. The GC shall coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation. The GC shall be the Project Expediter and Project Coordinator on this project.
 - 1. The GC shall schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, all Prime Contractors shall prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

PROJECT MANAGEMENT & COORDINATION

1. Prepare similar memoranda for architect, Owner, Owner's rep & Program / Construction Manager and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: The GC shall coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following: It is the responsibility of all Prime Contractors to coordinate with GC in the preparation of all scheduling and coordination issues.
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

1.4 SUBMITTALS

- E. Coordination Drawings: The General Contractor is responsible for coordination / preparation of Mechanical – Plumbing – Electrical - Technology Coordination Drawings for optimum utilization of space for efficient installation of different components and for the coordination for installation of products and materials fabricated by separate entities.
- F. Coordination drawings are to be complete and signed off by all prime contractors or major subs (plumbing, mechanical, electrical & technology) within 60 days of the Notice to Proceed.
1. Indicate relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
 3. Refer to Division 15 and Division 16 for specific Coordination Drawing requirements for mechanical and electrical installations.
 4. Preliminary coordination drawings must be submitted to the architect, Owner, Owner's rep & Program / Construction Manager prior to the initial pay application being paid.
- G. Staff Names: Within 5 working days of starting construction operations, all Prime Contractors will submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers.
- H. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

PROJECT MANAGEMENT & COORDINATION

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

1. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
 1. Include special personnel required for coordination of operations with other contractors.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify architect, Owner, Owner's rep & Program / Construction Manager, of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees at least 3 days prior to the scheduled meeting..
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including, architect, Owner, Owner's rep & Program / Construction Manager within 2 days of the meeting.
- J. Preconstruction Conference: The architect will schedule a pre-construction conference, at a time convenient to contractors, architect, Owner, Owner's rep & Program / Construction Manager, but no later than 10 days after notice to proceed. The conference will be at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
 1. Attendees: Authorized representatives of architect, Owner, Owner's rep & Program / Construction Manager, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.

PROJECT MANAGEMENT & COORDINATION

- j. Use of the premises.
 - k. Responsibility for temporary facilities and controls.
 - l. Parking availability.
 - m. Office, work, and storage areas.
 - n. Equipment deliveries and priorities.
 - o. First aid.
 - p. Security.
 - q. Progress cleaning.
 - r. Working hours.
- K. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction. These Pre-Installation meetings shall include all work scopes / trades as directed by architect, Owner, Owner's rep & Program / Construction Manager.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise architect, Owner, Owner's rep & Program / Construction Manager of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Required performance results.
 - u. Protection of construction and personnel.
 - v. Review of the "Project Plan".
 - 3. Record significant conference discussions, agreements, and disagreements.
 - 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

PROJECT MANAGEMENT & COORDINATION

- L. Progress Meetings: Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.
 - 1. Attendees: In addition to architect, Owner, Owner's rep & Program / Construction Manager, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work within 24 hours of notification of an issue needing action by one or more parties.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time. (See Section 01311 for specific scheduling requirements).
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
 - 14) Documentation of information for payment requests.
 - 3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- M. Coordination Meetings: Conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

PROJECT MANAGEMENT & COORDINATION

1. Attendees: In addition to architect, Owner, Owner's rep & Program / Construction Manager each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
3. Reporting: General Contractor to record meeting results and distribute copies within 2 working days to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PRODUCTS (Not Used)

EXECUTION (Not Used)

END OF SECTION 01 31 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Schedule.
 - 2. Submittals Schedule.
 - 3. Daily construction reports.
 - 4. Material location reports.
 - 5. Field condition reports.
 - 6. Special reports.
 - 7. Construction photographs.
- B. Specific requirements of each contract are also indicated in individual Specification Sections, All Bid Documents and on Drawings.
- C. Construction Photographs: Submit two prints of each photographic view (4 views total) within five working days of taking photographs, must be submitted with each monthly pay application.
 - 1. Format: Digitally formatted in a manner acceptable to the architect, Owner, Owner's rep & Program / Construction Manager, and provided electronically.
 - 2. Identification: On each print, provide an electronically applied label with the following information:
 - a. Name of Project.
 - b. Name and address of photographer.
 - c. Name of Architect and Owner.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - 3. Negatives: Submit a complete set of photographic negatives or diskette containing electronic image file in protective envelopes with each submittal of prints. Identify date photographs were taken.

CONSTRUCTION PROGRESS DOCUMENTATION

- D. Daily Construction Reports: Submitted Daily to architect, Owner, Owner's rep & Program / Construction Manager in a format as defined by Owner (including electronic formats such as Primavera Expedition).
- E. Material Location Reports: Submit as required by architect, Owner, Owner's rep & Program / Construction Manager.
- F. Field Condition Reports: Submitted to architect, Owner, Owner's rep & Program / Construction Manager in a format as defined by architect, Owner, Owner's rep & Program / Construction Manager (including electronic formats such as Primavera Expedition).
- G. Special Reports: Submitted per occurrence to Architect and Owner's Representative in a format as defined by architect, Owner, Owner's rep & Program / Construction Manager (including electronic formats such as Primavera Expedition).

1.3 QUALITY ASSURANCE

- 1. Photographer Qualifications: Digital photos of high quality taken by the General Contractor are acceptable.

1.4 COORDINATION

- A. Auxiliary Services: Cooperate with other trades, architect, Owner, Owner's rep & Program / Construction Manager, and provide auxiliary services requested, including access to Project site and use of temporary facilities including temporary lighting.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 - 2. Initial Submittal: Submit concurrently with preliminary network diagram. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead-time for manufacture or fabrication.
 - a. Show submittals on the Preliminary Construction Schedule.

CONSTRUCTION PROGRESS DOCUMENTATION

- b. Submittals must be logged and maintained in a format as defined by architect, Owner, Owner's rep & Program / Construction Manager, (including electronic formats such as Primavera Expedition).

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Durham Public Schools: Include a separate activity for each portion of the Work performed by Durham Public Schools.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date. Delivery dates indicated stipulate the earliest possible delivery date.
5. Durham Public Schools -Furnished Products: Include a separate activity for each product. Include delivery date. Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion. (Show staff occupying the building to set up classes & stocking at least 30 days prior to the contract substantial completion date).
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
 - k. Curing.
 - l. Startup and placement into final use and operation.
8. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

CONSTRUCTION PROGRESS DOCUMENTATION

- a. Structural completion.
 - b. Permanent space enclosure.
 - c. Completion of mechanical installation.
 - d. Completion of electrical installation.
 - e. Substantial Completion.
9. Responsibilities: Identify each activity according to the responsibility for that activity. Responsibilities categorization of activities shall include
- a. Durham Public Schools
 - b. Architect
 - c. City or County Agency having jurisdiction
 - d. General Contractor
 - e. Mechanical Contractor
 - f. Plumbing Contractor
 - g. HVAC Contractor
 - h. Electrical Contractor
 - i. Technology Contractor
 - j. Others having prime contracts

The purpose of this responsibility is to sort the schedule by entities having prime agreements with Durham Public Schools, Architect, agencies having jurisdiction. Establish secondary responsibilities in a separate activity definition for the purposes of sorting by subcontractors for the contractor's convenience.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. High and low temperatures and general weather conditions.
 5. Accidents.
 6. Meetings and significant decisions.
 7. Unusual events (refer to special reports).
 8. Stoppages, delays, shortages, and losses.
 9. Meter readings and similar recordings.
 10. Emergency procedures.
 11. Orders and requests of authorities having jurisdiction.
 12. Change Orders received and implemented.
 13. Construction Change Directives received.
 14. Services connected and disconnected.
 15. Equipment or system tests and startups.

CONSTRUCTION PROGRESS DOCUMENTATION

16. Partial Completions and occupancies.
 17. Substantial Completions authorized.
- B. Material Location Reports: At intervals as required by the architect, Owner, Owner's rep & Program / Construction Manager, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information on Primavera Expedition. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

- A. General: Submit special reports directly to architect, Owner, Owner's rep & Program / Construction Manager, within one day of an occurrence. Distribute copies of report to parties affected by the occurrence by way of Primavera Expedition.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, and response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise architect, Owner, Owner's rep & Program / Construction Manager, in advance when these events are known or predictable.

END OF SECTION 01 32 00

CONSTRUCTION SCHEDULES & REPORTS

1.01 GENERAL REQUIREMENTS

- A. The work under this contract shall be planned, scheduled, executed, and reported using the Critical Path Method (hereinafter referred to as: CPM), pursuant to the provisions of the General Conditions. Any deviation between this scheduling specification and the General Conditions shall be governed by the more stringent spec at the full discretion of the Engineer, Owner, Owner's rep & Program / Construction Manager.
- B. The primary objectives of the project scheduling program are to insure the adequate planning, scheduling and execution of the construction activities so they may be prosecuted in an orderly and expeditious manner, within the Contract Time and the milestones stipulated by the Contract, to provide optimum coordination between contractors, to establish the basis for measuring and monitoring individual contractor progress and overall project progress, to detect problems for the purpose of taking corrective action to maintain the scheduled program and to provide a mechanism or tool for determining and monitoring such corrective actions.
- C. Any schedule templates prepared for this project by the owner are made available by the Owner solely as an aid to the Contractor. Any construction plan depicted in the schedule template may not optimize, and it is not intended to optimize, the Bidder's costs or resources. It is intended that these schedules will reflect the milestones and completion dates established by the Owner. However, the services provided by the Engineer, Owner, Owner's rep & Program / Construction Manager, the existence of schedules, networks, or any other charts or services prepared or performed by the Engineer, Owner, Owner's rep & Program / Construction Manager shall in no way relieve the Contractor and/or Project Expediter of the responsibility of complying with all of the requirements of the Contract Documents, including but not limited to the responsibility of completing the Work within the Contract Time and the responsibility of planning, scheduling and coordinating the work. The Contractor is required to comply with all control procedures specified herein and with any reasonable changes that may be necessary, in the opinion of the Engineer, Owner, Owner's rep & Program / Construction Manager, or that are provided to the contractor regarding key dates, during the contract duration.
- D. Any and all milestone or specific Dates listed in these specifications, or elsewhere in the Contract Documents, represent only the major items of construction/erection work or interface dates. The milestone completion dates indicated are considered essential to the satisfactory performance of this Contract and to the coordination of all work on the project.
- The milestone dates listed are not intended to be a complete listing of all work under this Contract or of all interfaces with other project contractors.
- The milestone dates listed represent the latest allowable completion dates. Earlier completion dates may be established by the Project Expediter as agreed by the Contractor(s), Engineer, Owner, Owner's rep & / or Program / Construction Manager.
- E. If the Contractor should desire or intend to complete the work earlier than any required Milestone or Completion date, the Engineer, Owner, Owner's rep & Program /

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Construction Manager shall not be liable to the Contractor for any costs or other damages should the contractor be unable to complete the Work before such Milestone or Completion date. The duties, obligations, and warranties of the Owner to the Contractor shall be consistent with and applicable only to the completion of the Work on the Milestone and completion dates required in the Owner-Contractor Agreement, unless the Owner and Contractor otherwise agree in writing.

F. THE GENERAL CONSTRUCTION CONTRACTOR IS THE PROJECT EXPEDITER / COORDINATOR AND HAS THE DUTY OF SCHEDULE PREPARATION, COORDINATION, UPDATING & REPORTING.

1.02 PRE-BID

A. The Owner reserves the right to the following prior to the receipt of bids:

1. Engineer, Owner, Owner's rep & Program / Construction Manager or a third-party scheduling consultant may prepare a Preliminary Provisional Network, which displays a construction plan to complete the Project in compliance with Specific Dates listed in the Bid Documents.
 - a. The Engineer, Owner, Owner's rep & Program / Construction Manager make no warranty or representation either express or implied, as to the reasonableness of or feasibility of the fact that this Preliminary Provisional Network may be a complete listing of all of the Work activities required by this Contract.
 - b. Each Bidder is under the obligation of reviewing and analyzing the Preliminary Provisional Network and determining its feasibility and reasonableness with regard to the activities required by the Contract Documents, the duration of such activities and the sequence of work required in order to complete the work within the contract time.
2. At the sole discretion of the Owner the Engineer, Owner, Owner's rep & Program / Construction Manager may conduct a Pre-Bid Conference to familiarize bidders with the Project and the Preliminary Provisional Network, if supplied.

1.03 POST AWARD ACTIVITIES

A. The Contractor shall perform the following after receipt of the Notice to Proceed.:

Immediately following the receipt of Notice to Proceed, the General Contractor shall commence the preparation of the Detailed Construction Schedule. In this respect and prior to the next meeting with the Engineer, Owner, Owner's rep & Program / Construction Manager, the Contractor shall assemble, with the assistance of his Subcontractors and Suppliers, information regarding the project that includes but is not limited to:

1. A Detailed Construction Schedule that represents the Contractor's best judgment in how he shall prosecute and complete the work in compliance with the Contract Milestone Dates and any Specific Dates stipulated in the General Conditions or other contract documents.

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2. The identity and duration of all activities to be included in this construction plan shall meet the following criteria:
 - (A) Activity descriptions shall be clear and concise. The beginning and end of each activity shall be readily verifiable.
 - (B) Responsibility for each activity shall be identified with a single performing organization. (i.e., Primes, suppliers, vendors, and all sub-contractor)
 - (C) The cost component for each activity shall be provided, if requested by the Owner. The sum of the activity cost components shall equal the contract price.
 - (D) An activity must be no more than 14 calendar days in duration unless approved in advance by the Engineer, Owner, Owner's rep & Program / Construction Manager.
 - (E) Include relevant predecessors and successors for each activity as well as the type of relationships between, and any lag time required. All activities except the first activity (i.e., NTP) and last activity (i.e., Final Completion) shall have both predecessors and successors.
 - (F) Listing of Project submittals, approvals, and material/equipment site deliveries dates.
 3. The identity of planned and reasonably anticipated inclement weather as identified in Article 4.3.7.2 of the General Conditions.
 4. The identity of long lead items and delivery dates of all major pieces of equipment or materials.
 5. The schedule must be resource loaded and identify the contractor performing the work and the number of workers needed to perform each activity.
- B. The General Contractor shall, within **fourteen (14) calendar days** following Notice to Proceed, submit to the Engineer, Owner, Owner's rep & Program / Construction Manager, **a Computerized Construction Schedule** in precedence format that is acceptable to the owner.
- The Detailed Construction Schedule shall show:
- a. The order and interdependencies of the contractor's activities and the major points of interface or interrelation with the activities of others, including Specific Dates for completion.
 - b. Conformance with and identification of the specified mandatory milestone dates specified in the Contract Documents.
 - c. The description and quantity of work by activity.

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- d. The time required for engineering, preparation and approval of shop drawings, manufacturing, and delivery of Contractor-furnished permanent plant materials.
 - e. The time required for procurement, delivery, and erection of the Contractor's permanent plant materials.
 - f. Delivery of Owner-furnished material and equipment.
 - g. Shop fabrication and delivery.
 - h. Critical Path (or Paths).
 - i. Erection and installation.
 - j. Testing of equipment and materials.
 - k. Activity calendars, Incorporating potential weather delays, or multi- work periods.
- C. The Detailed Construction Schedule shall indicate an early completion date for the project that is no later than the project's required completion date. All activity durations shall be given in workdays. The Schedule shall also indicate each of the following:
- 1. Interfaces with the work of outside contractors, e.g., utilities, power, and with any separate contractor.
 - 2. Estimated duration time for each activity.
 - 3. Early start date for each activity.
 - 4. Late start date for each activity.
 - 5. Early finish date for each activity.
 - 6. Late finish date for each activity.
 - 7. Float available for each path of activities containing float.
 - 8. Actual start date for each activity begun.
 - 9. Actual finish date for each activity completed.
 - 10. Identification of all critical path activities in the schedule analysis.
 - 11. The critical path for the project, with said path of activities being clearly and easily recognizable on the time-scaled network diagram. The relationship between all non-critical activities and activities on the critical path shall be clearly shown on the network diagram.
 - 12. The dollar value of each activity in relation to the schedule of values, if required by the Owner.

CONSTRUCTION SCHEDULES & REPORTS

13. The responsibility code for the Contractor or Subcontractor performing each activity or portion thereof.
- D. The Engineer, Owner, Owner's rep & Program / Construction Manager will review the Contractor's Detailed Construction Schedule, for compatibility with the Project Milestones, Completion Schedule, and Project Expeditors' Schedule. If requested, a meeting will be held between the Engineer, Owner, Owner's rep & Program / Construction Manager and Contractor to resolve any conflicts in the Contractor's schedule. The Contractor shall revise his schedule as required by the Engineer, Owner, Owner's rep & Program / Construction Manager to ensure completion of the Project in accordance with the Project's Milestone and Completion Dates and shall submit his revised schedule to the Engineer, Owner, Owner's rep & Program / Construction Manager within five (5) calendar days.
 - E. Within **fourteen (14) calendar days** following Notice to Proceed, the Contractor shall submit a Schedule of Values for review by the Engineer, Owner, Owner's rep & Program / Construction Manager. The Schedule of Values will allocate a dollar value (cost) for each activity. Each activity cost allocation shall include a labor, equipment and material cost and a pro rata contribution to overhead and profit. The sum of all activity costs shall be equal to the total Contract Sum. Each activity cost shall be coded with a cost code corresponding to the subcontractor responsible for performing the Work so that subtotals for each division of the Work can be prepared.
 - F. Approval by the Engineer, Owner, Owner's rep & Program / Construction Manager of the Project Expediter's Project Construction Schedule is advisory only and shall not relieve the Contractors of the responsibility for accomplishing the Work within each and every Contract-required Milestone and Completion date. Omissions and errors in the approved Project Construction Schedule shall not excuse performance which is not in compliance with the contract. Acceptance by the Engineer, Owner, Owner's rep & Program / Construction Manager in no way makes the Engineer, Owner, Owner's rep & Program / Construction Manager an insurer of the Project Construction Schedule's success or liable for time or cost overruns flowing from its shortcomings. The Owner hereby disclaims any obligation or liability by reason of Engineer, Owner, Owner's rep & Program / Construction Manager acceptance of or acquiescence to the Project Construction Schedule.
 - G. The **Project Expediter / General Contractor** shall compile, organize, and present a fully integrated Computerized Project Construction Schedule to the Engineer, Owner, Owner's rep & Program / Construction Manager within **fourteen (14) calendar days** of Notice to Proceed. The Project Expediter shall provide five (5) hard copies of the Detailed Construction Schedule, and one electronic Primavera P6 compatible file copy, the Schedule of Values and Computer Reports to the Engineer, Owner, Owner's rep & Program / Construction Manager and Prime Contractors for final review and acceptance. The Project Expediter shall use the approved Project Construction Schedule in planning, organizing, directing, coordinating, performing and executing the work (including all activities of Subcontractors, equipment deliveries, vendors, and suppliers) and shall be the basis for evaluating the progress of the Work, subject to such revisions made in such schedule as provided for herein or in the Contract Documents.
 - H. The **Project Expediter** will develop and maintain the overall Project Construction Schedule, of which the Contractor's Detailed Construction Schedule will be a part. This

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schedule will be in precedence format and will be computer generated and updated and with the inclusion of the approved prime contractor schedules will be the controlling schedule document utilized for managing overall project construction.

1.04 COMPUTER COST AND SCHEDULE REPORTS

A. Every month the Project Expediter will generate all monthly Prime contractors' progress documents (i.e., monthly Turn-a-round Documents and the progress payment application Cost/Schedule Reports) from the Detailed Construction Schedule, based on the Progress Reports received from the Contractors. These Reports will reflect the progress of the project in respect to both cost and time.

B. Report Content:

1. The initial and subsequent Schedule Reports shall include the following minimum information for each activity: activity number, by total float (from the least to the most), and late start date, in chronological order:

- a. activity number
- b. activity description
- c. estimated duration in days
- d. early and late start dates
- e. early and late finish dates
- f. percentage of activity completed as of each report
- g. total float-positive/days behind schedule-negative
- h. responsibility for activity.

The Project Expediter will produce monthly (4) four schedule reports. The reports are:

1. All activities on the Project Construction Schedule sorted by activity number.
 2. Activity by Prime Contractor sorted. Further sorted by activity number.
 3. All activities for prime contractors sorted by total float.
 4. All activities by late start in chronological order.
2. The initial and subsequent Cost Reports shall include the following activity information sorted by trade:
- a. activity number
 - b. activity description

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- c. current month percentage of value of work in place against TotalValue
- d. previous month percentage of value of work in place against TotalValue
- e. total cost of each activity

1.05 UPDATES

- A. An updated project schedule shall be provided at each construction progress meeting.
- B. Each updated schedule must include the original base line schedule that was accepted by the Engineer, Owner, Owner's rep & Program / Construction Manager, and signed by each Prime Contractor. It also needs to reflect actual progress and anticipated completion durations.

1.06 PROGRESS PAYMENTS

- A. Five (5) calendar days prior to the date of application for Progress Payment, **each Prime Contractor's Project Manager and Superintendent**, the Engineer, Owner, Owner's rep & Program / Construction Manager shall meet at the job site for the purpose of reviewing the Contractor's report of actual progress, and obtaining from the Contractor (following his meeting with all concerned Subcontractors and suppliers) up-to-date and accurate progress data.
- B. Before the date of Application for Progress Payment, the Project Expediter shall produce copies of all reports referred to in the contract documents.
- C. The submission and approval of progress updates and the reports calculating the value of work done for any given pay period for each activity based on the percentage complete for that activity less the amount previously paid for past percentages complete and percent of retainage shall be an integral part and basic element of the application upon which Progress Payments shall be made pursuant to the provisions of the General Conditions. The Contractor shall be entitled to progress payments only as determined from the current updated and approved Project Cost Report. Each month the updated and approved Project Cost Report shall be attached to AIA form G702 in submitting payment applications.
- D. Due to the fact that the Schedules and Reports System may not be fully operational before thirty (30) days after the Notice to Proceed, the Contractor may be due one Provisional Progress Payment for mobilization, overhead, procurement of bonds and insurance, and general conditions. However, no payment for work will be approved until the Contractor has complied with the provisions of this Section.
- E. The following outlines the Contractor's pay cycle process Payment cycle (Payment check issued on approximately the 15th on the following month):
 - 1. Current month construction progress status approved by Design Consultant by 20th of the month.

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2. Current month Payment Application approved by Design Consultant, and Owner by 25th of the month.

2.00 CONTRACTOR'S ORGANIZATION

The Contractor shall maintain, as part of its organization, a staff/or consultant of sufficient knowledge in the use and application of CPM in a Primavera P6 compatible format and whose responsibility will be to prepare input information for the Detailed Construction Schedule, monitor progress, provide input for updating and revise logic diagrams when necessary.

2.01 SPECIFIC DATES

The Contractor is required to adhere to the Specific Dates as set forth in the Contract Documents.

2.02 RECOVERY SCHEDULE

Pursuant to the General Conditions, should the Project Coordinator / Expediter's approved Project Construction Schedule fall behind schedule to the extent that any of the critical activities, or specific milestone dates or completion dates fall behind by 14 days or more, or in the opinion of the Engineer, Owner, Owner's rep & Program / Construction Manager are in jeopardy, the Contractor shall be required to, at no extra cost to the Owner, prepare and submit to the Owner, Design Consultant and Project Expediter a supplementary Recovery Schedule, in a form and detail appropriate to the need, to explain and display how they intend to reschedule those activities to regain compliance with the Project Construction Schedule during the immediate subsequent pay period. This recovery schedule must indicate how the contractor / contractors intend to make up the delay in the project, either by additional shifts, additional workdays (weekends & holidays), or by additional crews or crew sizes.

2.03 NETWORK REVISIONS

- A. Should the Contractor, after approval of the initial Project Construction Schedule, desire to change his plan of construction, he shall submit his requested revisions to the Engineer, Owner, Owner's rep & Program / Construction Manager along with a written statement of the revisions including a description of the logic for rescheduling the work, methods of maintaining adherence to intermediate milestones and Specific Dates and the reasons for the revisions. The Contractor shall revise his schedule to include the effect of Changes, acts of God or other conditions or events which have affected the network. If the requested changes are acceptable to the other Prime Contractors, the Engineer, Owner, Owner's rep & Program / Construction Manager, and they do not adversely impact any Milestone or Completion Dates, they will be incorporated into a revised Approved Project Construction Schedule, to be compiled and produced by the Project Expediter in the next reporting period. All costs associated with such revision shall be at the sole expense of the contractor.
- B. When the Owner orders changes by Change Order which have the potential to impact the Contract milestones or Specific Dates stipulated in the Contract Documents, a Revised Network will be prepared by the Contractor and provided to the Engineer, Owner, Owner's rep & Program / Construction Manager for concurrence or revision as he deems necessary.

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After the revised network has been mutually agreed upon, it will be incorporated into a revised Project Construction Schedule, to be compiled and produced by the Project Expediter. Change Order logic will affect only those activities and performance dates directly concerned. Adjustments in Scheduled intermediate Completion Dates or for the Contract as a whole will be considered only to the extent that there is insufficient remaining float to absorb these changes.

- C. Any change to the approved Project Construction Schedule must be approved in writing by the Engineer, Owner, Owner's rep & Program / Construction Manager.
- D. Neither the updating or revision of approved Project Construction Schedule nor the submission, updating, change or revision of any report or schedule submitted to Engineer, Owner, Owner's rep & Program / Construction Manager by Contractor under this Section nor Owner's review or non-objection of any such report or schedule shall have the effect of amending or modifying, in any way, the Contract Time, any Contract Completion Date, or Contract Milestone Dates or of modifying or limiting in any way Contractor's obligations under this Contract.

2.04 FLOAT TIME

- A. Float or slack time is defined as the amount of time between the earliest start date and the latest start date or between the earliest finish date and the latest finish date of a chain of activities on the Detailed Construction Network. Contractor's work shall proceed according to early start dates, and the Engineer, Owner, Owner's rep & Program / Construction Manager shall have the right to reserve and apportion float time according to the needs of the project. The Contractor acknowledges and agrees that actual delays, affecting paths of activities containing float time, will not have any effect upon contract completion times, providing that the actual delay does not exceed the float time associated with those activities.
- B. Extensions of time for performance as described in the Contract Documents will be granted only to the extent that time adjustment for the activity or activities affected by any condition or event which entitles the Contractor to a time extension exceed the total float or slack along the path of activities affected at the time of Notice to Proceed of a Change Order or the commencement of any delay or condition for which an adjustment is warranted under the Contract Documents.

2.05 REQUESTED TIME ADJUSTMENT SCHEDULE:

- A. The updated approved Project Construction Schedule submitted by Project Expediter shall not show a completion date later than the Contract Time, subject to any time extensions approved by Owner. If Contractor believes he is entitled to an extension of the Contract Time under the Contract Documents, Contractor shall submit to Owner and Design Consultant, a separate schedule analysis (entitled "Requested Time Adjustment Schedule") indicating suggested adjustments in the Contract Time which should, in the opinion of Contractor, be made in accordance with the contract Documents by time extension, due to changes, delays or conditions occurring during the past month or previously, or which are expected or contemplated by Contractor (whether such conditions are excusable under the Contract or are alleged to be due to Contractor or Owner fault); this separate schedule, if submitted, shall be time-scaled utilizing a computer generated and computer-drawn network analysis schedule, unless otherwise approved by the Engineer, Owner, Owner's rep &

CONSTRUCTION SCHEDULES & REPORTS

Program / Construction Manager and shall be accompanied or preceded by a formal time extension request as required by the Contract and a detailed narrative justifying the time extension requested.

- B. Neither the Engineer, Owner, Owner's rep & Program / Construction Manager shall have any obligation to consider any time extension request unless the requirements of all of the Contract Documents, are complied with the Owner shall not be responsible or liable to Contractor for any constructive acceleration due to failure of Owner to grant time extensions under the Contract Documents should Contractor fail to substantially comply with the submission requirements and the justification requirements of this Contract for time extension requests. Contractor's failure to perform in accordance with the approved Project Construction Schedule shall not be excused, nor be chargeable to Owner, because Contractor has submitted time extension requests or a "Requested Time Adjustment Schedule."

2.06 COORDINATION

- A. The Contractor shall coordinate his work with that of other contractors and shall cooperate fully with the Engineer, Owner, Owner's rep & Program / Construction Manager in maintaining orderly progress toward completion of the work as scheduled. The Engineer, Owner, Owner's rep & Program / Construction Manager decisions regarding priority between the Contractor's work and the work of other contractors at the site shall be final. If the Contractor's critical path work is delayed by the Engineer, Owner, Owner's rep & Program / Construction Manager decision, the Contractor shall submit any required time extension requests to the Owner in accordance with the Contract Documents.
- B. The milestone dates referred to in the Contract Documents for delivery of Owner-furnished equipment and materials and interface activities of other contractors on the site are based on dates set forth in separate contracts with the Owner.
- C. Failure of Owner-furnished equipment and materials to arrive as scheduled, or failure of other construction contractors to meet their schedule, shall not be justification for an extension of time, except where such failure causes, in the opinion of the Engineer, Owner, Owner's rep & Program / Construction Manager a delay in the Contractor's critical path work, in which case the provisions of the General Conditions regarding extensions of time and extra work shall apply.
- D. The Contractor shall keep himself, and his subcontractors, advised at all times during the course of the Work regarding delivery status of Owner-furnished equipment and materials and of the progress of construction work being performed under separate contracts.
- E. The Engineer, Owner, Owner's rep & Program / Construction Manager will, upon written request by the Contractor, furnish delivery information which may be available to the Engineer, Owner, Owner's rep & Program / Construction Manager.

2.07 SCHEDULE OF OFF-SITE ACTIVITIES

- A. The Contractor shall include in his Detailed Construction Network all procurement related activities which lead to the delivery of materials to the site in a timely manner. Upon written approval by the Engineer, Owner, Owner's rep & Program / Construction Manager, these

CONSTRUCTION SCHEDULES & REPORTS

activities may be submitted as a separate Off-Site Activities Schedule, properly correlated to the Detailed Construction Schedule. The schedule of off-site activities shall include, but is not limited to, the following:

1. Dates for submittals, ordering, manufacturing, or fabricating, and delivery of equipment and materials. Long lead items requiring more than one month between ordering and delivery to site shall be clearly noted.
 2. All significant activities to be performed by the Contractor during the fabrication and erection/installation in a Contractor's plant or on a job site, including materials/equipment purchasing, delivery; and
 3. Contractor's drawings and submittals to be prepared and submitted to the Design Consultant.
- B. The Contractor shall be solely responsible for expediting the delivery of all material to be furnished by him so that the construction progress shall be maintained according to the approved Project Construction Schedule for the Work as approved by the Engineer, Owner, Owner's rep & Program / Construction Manager.
- C. The Engineer, Owner, Owner's rep & Program / Construction Manager shall be advised in writing by the Contractor whenever it is anticipated by the Contractor that the delivery date of any material and/or equipment furnished by the Contractor for installation will be later than the delivery date shown on the schedule, subject to schedule updates.
- D. Submittals, equipment orders and related items are to be treated as schedule activities and shall be given appropriate activity numbers.
- E. The Contractor, in developing his off-site and procurement schedules, will ensure that off-site activities do not control the critical path of on-site activities.

2.08 CONTRACTOR COVENANTS AND GUARANTEES

- A. Contractor covenants and guarantees that Contractor will not:
1. Misrepresent to Engineer, Owner, Owner's rep & Program / Construction Manager its planning scheduling or execution of the Work.
 2. Utilize schedules materially different from those made available by Contractor to the Engineer, Owner, Owner's rep & Program / Construction Manager or any Subcontractor or separate Contractors for the direction, execution, and coordination of the Work, or which are not feasible or realistic.
 3. Prepare schedules, updates, revisions, or reports for the work which do not accurately reflect the actual intent or reasonable and actual expectations of Contractor and its Subcontractor as to:
 - (a) The sequences of activities,
 - (b) The duration of activities,

CONSTRUCTION SCHEDULES & REPORTS

- (c) The responsibility of activities,
 - (d) Resources availability,
 - (e) Labor availability or efficiency,
 - (f) Foreseeable weather conditions,
 - (g) The value associated with the activity,
 - (h) The percentage complete of any activity,
 - (i) Completion of any item of work or activity,
 - (j) Project milestone completion,
 - (k) Delays, slippages, or problems encountered or expected,
 - (l) Subcontractor requests for time extensions or delay claims of subcontractors, and
 - (m) Float time
- B. Contractor's failure to substantially comply with the foregoing covenant and guarantee shall be a substantial and material breach of contract which will permit Owner to terminate Contract for default, or withhold payments under the Contract Documents, and shall entitle Owner to the damages afforded for misrepresentation or fraud by these Contract documents or applicable law.
- C. Should Contractor fail to substantially comply with the provisions of the Contract documents relating to planning, scheduling and execution of the Work by the overall project schedule, Owner and the Design Consultant shall have the right, at their option, after five (5) days' notice, to retain the services of scheduling consultants or experts (including attorneys if necessary in their opinion) to prepare a schedule in accordance with the Contract Documents and to review and analyze same, in order to allow Engineer, Owner, Owner's rep & Program / Construction Manager to evaluate the program of the Work by Contractor, to determine whether Contractor is substantially complying with the Contract Documents, and to direct such action on the part of the contractor to ensure that Contractor will meet the Project's Construction Schedule and all Milestone and Completion Dates. All costs incurred by Owner in preparing the schedule hereunder shall be charged to the responsible Contractor(s). If Contractor fails to substantially comply with the scheduling and execution of the work requirements of the Contract Documents, Contractor hereby agrees to pay all costs for a 3rd party scheduling consultant (selected by the Owner) for the development and twice monthly updating of the construction schedule.

2.09 DEFAULT

Failure of the Contractor to substantially comply with the requirements of this Section shall constitute reason that the Contractor is failing to prosecute the Work with such diligence as

CONSTRUCTION SCHEDULES & REPORTS

will ensure its completion within the Contract times and shall be considered grounds for termination by the Owner, pursuant to the General Conditions.

END OF SECTION 01 32 16

SUBMITTALS

PART 1 - GENERAL

.1 RELATED DOCUMENTS

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

.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Shop Drawings.
 - 4. Product Data.
 - 5. Samples.
 - 6. Quality assurance submittals.
- B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
 - 1. Permits.
 - 2. Applications for Payment.
 - 3. Performance and payment bonds.
 - 4. Insurance certificates.
 - 5. List of subcontractors.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Applications for Payment" specifies requirements for submittal of the Schedule of Values.
 - 2. Division 1 Section "Quality Control" specifies requirements for submittal of inspection and test reports.
 - 3. Division 1 Section "Contract Closeout" specifies requirements for submittal of Project Record Documents and warranties at project closeout.

.3 DEFINITIONS

- A. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
- B. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.

SUBMITTALS

4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Designer/Program Manager reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
 3. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.
 - a. Allow 2 weeks for initial review. Allow additional time if the Program Manager must delay processing to permit coordination with subsequent submittals.
 - b. If an intermediate submittal is necessary, process the same as the initial submittal.
 - c. Allow 2 weeks for reprocessing each submittal.
 - d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Program Manager sufficiently in advance of the Work to permit processing.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
1. Provide a space approximately 4 by 5 inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 2. Include the following information on the label for processing and recording action taken.
 - a. Project name.
 - b. Date.
 - c. Name and address of the Designer/Program Manager.
 - d. Name and address of the Contractor.
 - e. Name and address of the subcontractor.
 - f. Name and address of the supplier.
 - g. Name of the manufacturer.
 - h. Spec section number & name
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Program Manager using a transmittal form. The Program Manager will not accept submittals received from sources other than the Contractor.

SUBMITTALS

1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart-type, contractor's construction schedule. Submit within 15 days after the date established for "Commencement of the Work."
 1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values."
 2. Within each time bar, indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.
 5. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other schedules.
 6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Program Manager's procedures necessary for certification of Substantial Completion.
- B. Distribution: Following response to the initial submittal, print and distribute copies to the Program Manager, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- C. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

.6 SUBMITTAL SCHEDULE

- A. A submittal schedule is required for this project. The schedule shall be organized based upon the technical specification index for divisions 2-49 of this project.

.7 DAILY CONSTRUCTION REPORTS

SUBMITTALS

- A. Prepare a weekly construction report recording the following information concerning events at the site:
1. List of subcontractors at the site.
 2. Approximate count of personnel at the site.
 3. High and low temperatures, general weather conditions.
 4. Accidents and unusual events.
 5. Meetings and significant decisions.
 6. Stoppages, delays, shortages, and losses.
 7. Meter readings and similar recordings.
 8. Emergency procedures.
 9. Orders and requests of governing authorities.
 10. Change Orders received, implemented.
 11. Services connected, disconnected.
 12. Equipment or system tests and startups.
 13. Partial Completions, occupancies.
 14. Substantial Completions authorized.

.8 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
- B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:
1. Dimensions.
 2. Identification of products and materials included by sheet and detail number.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
 6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 36 by 48 inches (890 by 1220 mm).
 7. Initial Submittal: Submit 2 blue- or black-line prints for review
 8. Final Submittal: Submit 3 blue- or black-line prints and 2 additional prints where required for maintenance manuals.
 - a. One of the prints returned shall be marked up and maintained as a "Record Document."
 9. Do not use Shop Drawings without an appropriate final stamp indicating action taken.

.9 PRODUCT DATA

SUBMITTALS

- A. Collect Product Data into a single submittal for each specification section or each element of construction or system. Partial submittals will NOT BE accepted. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
 3. Submittals: Submit 2 copies of each required submittal; submit 4 copies where required for maintenance manuals. The **Owner** will retain one and will return the other marked with action taken and corrections or modifications required.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 4. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 - b. Do not permit use of unmarked copies of Product Data in connection with construction.

.10SAMPLES

- A. Samples are required as indicated in technical specification divisions 2-49 for this project.

.11QUALITY ASSURANCE SUBMITTALS

- A. Submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- B. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.

SUBMITTALS

1. Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
- C. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division 1 Section "Quality Control."

.12 Program Manager's ACTION

- A. Except for submittals for the record or information, where action and return is required, the Owner will review each submittal, mark to indicate action taken, and return promptly.
 1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Report: The Program Manager will attach to each submittal a uniform, action summary sheet. The Program Manager will mark the sheet appropriately to indicate the action taken
- C. Unsolicited Submittals: The Owner will return unsolicited submittals to the sender without action.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 33 00

SPECIAL PROJECT PROCEDURES

The "SPECIAL PROJECT PROCEDURES" has been developed as a working tool with the sole purpose of stimulating action by all parties. It is a single source of information specific to the **Insert Project Name here**. The issues discussed in the plan are applicable to all parties. It is a tool that will be modified as the scope of work changes and site-specific conditions change. The following items make up the SPECIAL PROJECT PROCEDURES:

1. **STUDENT SAFETY**

- ◆ Construction fencing will be utilized as indicated on the site plan to control the construction zone and generate a safe path of travel for students, staff, and the public.
- ◆ 10 mph speed limit for construction traffic will be enforced.
- ◆ Roadways being shared with school and construction traffic will be closely supervised.

2. **STUDENT SECURITY**

- ◆ No Construction personnel in school building during school hours without authorization from the principal or owner.

3. **PARKING**

- ◆ Contractor to prepare a Site Utilization Plan that shows parking, porta-john, lay-down, etc. for approval.
- ◆ Construction parking in designated contractor parking, staging, and overflow parking areas only.

4. **EMERGENCY ACCESS TO SITE**

- ◆ Fire extinguishers will be placed throughout the site with the fire marshal's input.

5. **VEHICULAR TRAFFIC ISSUES**

- ◆ During summer school days, deliveries will be limited to **after drop-off and before pick-up** in an effort to not add to the existing traffic.
- ◆ Buses / students arrive in the morning ends at **Insert Times Here**
- ◆ Buses / students depart in the afternoon begins at **Insert Times Here**.

6. **WORKERS CODE OF CONDUCT**

- ◆ Zero tolerance policy for cursing, cat calling, or unauthorized inter-action with students, staff, or parents.
- ◆ Swift prosecution of illegal drug, alcohol, tobacco, or firearm violations.
- ◆ Security background checks are required for every worker on site.

SPECIAL PROJECT PROCEDURES

7. **CONSTRUCTION SCHEDULE & SEQUENCE**

- Construction locations and sequencing will be coordinated with the school principal and school construction and capital planning so as to not interfere with normal school operations.

8. **CONSTRUCTION WORK HOURS**

- ◆ Work hours will be from Insert Hours Here generally.
- ◆ Second shift work “MAY” be after approval by DPS.

9. **DIRT, DUST AND NOISE**

- ◆ Daily clean up will be done by the contractors to maintain a clean site.
- ◆ Roadway debris will be kept clean using a tractor mounted road sweeper or other appropriate means.
- ◆ Noise in adjacent areas to summer school classrooms will be kept to a minimum so as to not interfere with class studies. **NO NOISE** is permitted during testing.

10. **BI-WEEKLY UPDATE MEETINGS**

- ◆ Bi-weekly update meetings will be scheduled during the Kick-Off meeting.

11. **COMMUNICATIONS PROCEDURES**

- ◆ All communication to the principal or the Owner will flow through **Insert Contact Here**

DURHAM PUBLIC SCHOOL BOARD POLICY

Descriptor Term: USE OF TOBACCO PRODUCTS	Descriptor Code: 2210
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Draft Date: August 26, 1992	Date Issued by Superintendent: August 26, 1992	Revised by Board: October 24, 2013
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The Board of Education recognizes that the use of tobacco products is a health, safety and environmental hazard for students, employees, visitors and school facilities. The Board also acknowledges that adult employees serve as role models for students and that the Board's acceptance of any use of tobacco products implies school approval, if not endorsement, of such use. In addition, the Board recognizes that it has an obligation to promote a healthy learning and working environment, free from unwanted smoke, for the students, employees and visitors of the school system.

Tobacco Use Prohibited

No student, staff member school visitor or any other person is permitted to use any tobacco product at any time, including non-school hours, in school buildings, in school facilities, on school campuses, and in or on any other school property owned or operated by the Durham Public Schools. Further, no student is permitted to possess a tobacco product while in any school building, while on school grounds or property or at any school-sponsored or school-related event or at any other time that students are under the authority of school personnel.

The use of any tobacco product is also prohibited by any person attending a school-sponsored event, no matter where located, when in the presence of students or school personnel or in an area where smoking is otherwise prohibited by law.

Tobacco products may be included in instructional or research activities in public school buildings if the activity is conducted or supervised by the faculty member overseeing the instruction or research and the activity does not include smoking, chewing, or otherwise ingesting the tobacco product.

For the purposes of this policy, "tobacco product" is defined to include cigarettes, cigars, pipes, chewing tobacco, snuff, and any other items containing tobacco, or any items reasonably resembling tobacco or tobacco products, including electronic cigarettes. Tobacco use includes smoking, chewing, dipping, or any other use of tobacco products.

Legal Reference: G.S. 115C-407

Legal Reference: G.S. 143-595 through -601; 20 USC 6081-6084



DURHAM

[PROJECT NAME HERE]

[photograph here]

**[CONTRACTOR
NAME HERE]**

TAG # 001

CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.1 Related Documents

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

1.2 Summary

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Temporary utilities required include, but are not limited to:
 - 1. Water service and distribution.
 - 2. Temporary electric power and light.
 - 3. Telephone service.
 - 4. Storm and sanitary sewer.
 - 5. Natural gas service and distribution.
- C. Temporary construction and support facilities required include, but are not limited to:
 - 1. Temporary climate conditioning.
 - 2. Field office and storage sheds.
 - 3. Temporary roads and paving.
 - 4. Sanitary facilities, including drinking water.
 - 5. Temporary enclosures.
 - 6. Hoists
 - 7. Temporary Project identification signs
 - 8. Waste disposal services.
 - 9. Rodent and pest control.
 - 10. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities required include, but are not limited to:
 - 1. Temporary fire protection.
 - 2. Barricades, warning signs, lights.
 - 3. Sidewalk bridge or enclosure fence for the site.
 - 4. Environmental protection.
- E. The responsibility to install, maintain, and remove this Work shall be the Contractor's. Temporary facilities provided by the Contractor include, but are not necessarily limited to:

Water service and distribution (including irrigation well(s)), or water storage tanks as required.

Temporary electric power and light.

Telephone service

Storm water

Sanitary sewer.

Temporary climate conditioning

Field office for Owner and General Contractor (Owner's office to be located in the General Contractor's office trailer).

Furnished with desk, chair, file cabinet, power, phone, data outlets and internet access.

Field offices & storage sheds for Contractors & subcontractors

Temporary roads and paving

Sanitary facilities, including drinking water

CONSTRUCTION FACILITIES

- Temporary enclosures
- Hoists
- Temporary Project identification signs and bulletin boards
- Waste collection and disposal services
- Rodent and pest control.
- Construction aids and miscellaneous services and facilities
- Temporary fire protection.
- Barricades, warning signs, lights.
- Sidewalk bridge or enclosure fence for the site.
- Environmental protection.
- Protection of stored materials
- Stairs (temporary and permanent)

1.3 Definitions

- A. **Permanent Enclosure:** As determined by Architect, 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.

1.4 Use Charges

- A. **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, Architect, testing agencies, and authorities having jurisdiction.
- B. **Sewer Service:** Pay sewer service use charges for sewer usage by all entities for construction operations.
- C. **Water Service:** Pay water service use charges for water used by all entities for construction operations.
- D. **Electric Power Service:** Pay electric power service use charges for electricity used by all entities for construction operations.

1.5 Submittals

- A. **Temporary Utilities:** Submit reports of tests, inspections, meter readings and similar procedures/performance on temporary utilities.
- B. **Implementation and Termination Schedule:** Submit a schedule indicating implementation and termination of each temporary utility within fifteen (15) days of the Notice to Proceed.
- C. **Site Plan:** Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.6 Quality Assurance

- A. **Regulations:** Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including but not limited to:
 - 1. Building Code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, Fire Department and Rescue Squad rules.
 - 5. Environmental protection regulations.

CONSTRUCTION FACILITIES

- B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations"; ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities".
 - 1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC for industry recommendations.
 - 2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electrical service. Install services in compliance with National Electric Code and NFPA 70.
 - C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.
- 1.7 Project Conditions
- A. Temporary Utilities: At the earliest feasible time, and when acceptable to the Owner, change over from use of temporary service to use of the permanent service.
 - B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention and safety measures. Do not operate facilities or utilities in a manner causing overloads, or interference's with Work progress. Do not allow hazardous, dangerous, unsanitary or public nuisances to develop. Regularly inspect and promptly correct non-conforming conditions.
 - C. The General Contractor is responsible to maintain the area inside the construction fencing and or limits of construction for the duration of the project. This includes cutting the grass and weed eating along the fence and around any objects weekly, and picking up trash and debris on a daily basis.

PART 2 - PRODUCTS

- 2.1 Materials
- A. General: Provide new materials suitable for the use intended; if acceptable to the Architect, undamaged previously used materials in serviceable condition may be used.
 - B. Pavement: Comply with Division 32 Section "Asphalt Paving."
 - C. Wood Enclosure Fence: Plywood, 6 feet high, framed with four 2-by-4-inch rails, with preservative-treated wood posts spaced not more than 8 feet apart.
 - D. Lumber and Plywood: Comply with requirements in Division 6, Section "Rough Carpentry."
 - E. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36.
 - F. Insulation: Un-faced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
 - G. Paint: Comply with requirements in Division 9 painting Sections.
- 2.2 Temporary Facilities
- A. General: Provide equipment suitable for the use intended; if acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used.
 - B. Common-Use Field Office: Of sufficient size to accommodate needs of construction personnel. Keep office clean and orderly. Furnish and equip offices as follows:
 - 1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.

CONSTRUCTION FACILITIES

2. Conference room of sufficient size to accommodate meetings of 20 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 by 8 foot tack board.
3. Drinking water and private toilet.
4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
5. Lighting fixtures capable of maintaining average illumination of 40 fc at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished and equipped to accommodate materials and equipment for construction operations.
 1. Store combustible materials apart from building.
- D. Electrical Outlets: Provide properly configured NEMA polarized outlets that prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset buttons and pilot lights for connection of power tools and equipment within 100 ft of all work areas.
- E. Electrical Power Cords: All Contractors shall provide UL tested and labeled, grounded extension cords of an appropriate gauge for the intended application; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.
- F. Lamps and Light Fixtures: Provide GFCI protected general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- G. HVAC: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 3. 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.
- H. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical aerated recirculating type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material. Include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
- I. First Aid Supplies: Comply with governing regulations.
- J. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "ABC" fire extinguishers for temporary office and similar spaces. In other locations, provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes suited for the exposures.
 1. Comply with NFPA 10 and 241 for classification extinguishing agent and size required by location and class of fire exposure.
 2. Provide a designated fire watch individual with welding blankets and welding screens as required to limit risks associated with welding, cutting and burning.
- K. Temporary Project Sign: Provide a construction sign as described herein, in format indicated following this section, in a location directed by the Architect/Owner. The Project sign shall be double faced, two-directional sign consisting of two sheets of 3/4" X 4' 0" x 8' 0" exterior grade plywood, attached with 1/4" diameter bolts through two 4 x 4 wood posts set 3' 0" deep in

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compacted earth. The format shall be as indicated following this section and will include Owner's name and logo, project title, Architect's name and logo, and Contractor's name and logo. Additionally, provide directional information signs to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative treated wood or steel. Do not permit installation of unauthorized signs.

PART 3 - EXECUTION

3.1 Installation, General

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.
- C. The cost for installation, maintenance, removal or use of temporary facilities and utilities are not chargeable to the Owner or Architect and will not be accepted as a basis of claims for a Change Order.
- D. All temporary utilities' operational expenses shall be borne by the General Contractor, unless otherwise indicated.
- E. Utilities or facilities not referenced in this section for installation, but required for the full development of the Project shall be installed and maintained in a workmanlike manner. The cost for unspecified facilities shall be borne by the General Contractor if reasonably inferable from the Construction Documents.

3.2 Temporary Utility Installation

- A. General: Engage the appropriate Utility Company to install temporary service or connect to existing service. Where the Utility provides only part of the service, provide the remainder with matching compatible materials and equipment; comply with the Utilities recommendations.
 1. Arrange with the Utility and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.
 2. Obtain easements to bring temporary utilities to the site, where the Owners easements cannot be used for that purpose.
 3. Provide adequate capacity at each stage of construction. Prior to temporary utility availability provide trucked-in services.
 4. Cost or use charges for temporary facilities are not chargeable to the Owner or Architect and will not be accepted as the basis of claims for a change order.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction. Construct irrigation well(s) as required to maintain grass and landscaping. See Division 1 Section "Allowances" for additional information.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Temporary HVAC systems: Provide temporary climate conditioning in any building area until the permanent HVAC system is operational, especially if the current Project schedule indicates the start of the ceiling tiles, carpeting, wood casework, or other environmentally sensitive system or material. Select safe equipment that will not have a harmful effect on completed

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installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy. The General Contractor must include in his critical path schedule provisions for electrical power, natural gas service, water, sewer and storm drainage utilities to be fully functional and available to enable the HVAC systems to be operated as required to facilitate the installation of the ceiling tile, carpet or wood casework, or other environmentally sensitive system or material. He shall assume responsibility for providing heating or cooling after the current Project schedule indicates the start of the ceiling tiles, carpeting, or wood casework. The permanent systems in any area of the building shall not be started unless all doors and windows in exterior walls are installed, or suitable temporary construction is in place and building is relatively dust free (i.e., floors are broom clean, drywall finishing and paint spraying are completed). If in the Architect's sole opinion, conditions exist sufficient to comprise the "quality of the system" at the date of Acceptance by the Owner; the authorization to startup the permanent systems shall be withheld until such time as the unsatisfactory conditions are corrected. The additional cost to maintain the operation of the temporary heating or cooling system shall be the Contractor's. Systems shall operate sufficiently to maintain the minimum temperature and relative humidity of the designed system +/- 15 percent.

- F. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
- G. Lighting: When overhead floor or roof deck has been installed, provide GFCI protected temporary lighting with local switching. Install and operate temporary lighting that will fulfill security and protection requirements and provide adequate illumination for construction operations and traffic conditions. The temporary lighting system shall be installed in a manner such that it can be operated without operating the entire electrical system.
- H. Telephone Service: Provide temporary telephone service for the use of all personnel engaged in construction activities throughout the construction period. Install a separate line for each temporary office and first aid station. Where an office has more than two occupants, install a telephone for each additional occupant or pair of occupants. Provide a dedicated telephone line for each facsimile machine and computer in each field office. At each telephone post a list of important telephone numbers.
 - 1. Provide superintendent with cellular telephone for use when away from field office.
- I. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully.
 - 1. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
 - 2. If sewers are not available or cannot be used, provide and maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.
- J. Storm water control: Provide earthen embankments and similar barriers in and around excavations and subgrade construction sufficient to prevent flooding by runoff of storm water from heavy rains. Promptly remove and replace soils that become unsuitable for their intended purpose because of failure to comply with this requirement.
- K. The warranty on all equipment will be extended from start-up to one (1) year past the date of substantial completion of the Project. Extended warranties such as five year compressor warranties shall be extended beyond the period established by the actual start-up date of the equipment as defined herein.

3.3 Support Facilities Installation

- A. The General Contractor will locate field office, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access in the areas designated for same. Maintain temporary construction and support facilities until near Substantial Completion.

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- Remove prior to Substantial Completion and restore the site to the condition prior to mobilization, unless otherwise directed. Personnel remaining after Substantial Completion will be permitted to use permanent facilities under conditions acceptable to the Owner.
- B. The General Contractor will provide non-combustible construction for offices, shops and sheds located within the construction area or within thirty (30) feet of building lines. Comply with requirements of NFPA 241.
 - C. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas in same location as permanent roads and paved areas where possible. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
 - 1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
 - 2. Prepare subgrade and install sub-base and base for temporary roads and paved areas according to Division 32 Section "Earth Moving".
 - 3. Recondition base after temporary use, including removing contaminated material, regarding, proof-rolling, compacting, and testing.
 - 4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Division 32 Section "Asphalt Paving."
 - D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire fighting equipment and access to fire hydrants.
 - E. De-watering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
 - 2. Remove snow and ice as required to minimize accumulations.
 - F. Parking: Provide temporary parking areas for construction personnel.
 - G. Project Identification and Temporary Signs: Provide Project identification and other signs. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
 - 1. Provide temporary, directional signs for construction personnel and visitors.
 - 2. Maintain and touchup signs so they are legible at all times.
 - H. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed from exposure, foul weather, other construction operations and similar activities.
 - 1. Where climate conditioning is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of conditioning. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 - 2. Install tarpaulins securely with non-combustible wood framing and other materials.
 - 3. Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.
 - 4. Separate occupied areas of existing facilities from the construction areas with enclosures and dust partitions as needed.
 - I. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
 - J. Rodent and Pest Control: Before deep foundation Work has been completed, (if applicable) retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform

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extermination and control procedures at regular intervals so the Project will be relatively free of pests and their residues at Substantial Completion. Perform control operations in a lawful manner using environmentally safe materials. Submit the recommendations and reports of the exterminator to the Architect for review.

- K. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.
 - 1. 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.
- L. Temporary Elevator Use: Refer to Division 14 Sections for temporary use of new elevator.

3.4 Security and Protection Facilities Installation

- A. Do not change over from use of temporary security and protection facilities to permanent facilities until Substantial completion, or longer as requested by the Architect.
- B. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations".
 - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor.
 - 2. Store combustible materials in containers in fire-safe locations.
 - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires.
 - 4. Provide supervision of welding operations, combustion type temporary heating units and similar sources of fire ignition.
- C. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- D. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security. Where materials and equipment must be stored and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- E. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations and minimize the possibility that air, waterways and soils might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful levels of noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.
- F. Protection Of Installed Work
 - 1. Protect installed work and provide special protection where specified in individual specification Sections.
 - 2. Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.
 - 3. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
 - 4. Protect, with durable sheet materials, finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.
 - 5. Prohibit traffic on landscaped areas.
- H. Protection of Roof and Water-proofing

CONSTRUCTION FACILITIES

1. Protect from damage due to subsequent construction operations.
2. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, comply with recommendations for protection from waterproofing or roofing material manufacturer.
3. For construction materials stored on the roof, store over plywood, particleboard, or other approved protection board. Do not exceed the design load with stored materials and other anticipated live loads.
4. Do not store construction materials on roof and flashing.
5. Where mechanical and other construction work is performed from the roof, the immediate area shall be protected with plywood, particleboard, or other approved protection board. Where construction workers are likely to walk protect similarly. Contractor shall provide protective covering on the roof after roofing is installed.
6. Remove protection board from the site upon completion of the work.

3.5 Operation, Termination and Removal

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by adverse weather conditions.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.
 2. Prevent water filled piping from freezing.
 3. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or not later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
 1. Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of Project identification signs.
 2. Remove temporary paving that is not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other chemical compounds and other substances which might impair growth of plant materials or lawns. Repair or replace street paving, curbs and sidewalks at the temporary entrances as required by the governing authority.
 3. At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:
 - a. Replace air filters not less than once a month and clean inside of ductwork.
 - b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
 - c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION 01 52 00

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Recycling nonhazardous construction waste
 - 2. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 RECYCLING CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall be shared equally by Owner and Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.2 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - 2. Polystyrene Packaging: Separate and bag materials.
 - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Paint: Seal containers and store by type.

3.3 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

END OF SECTION 017419

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project Record Documents.
 - 3. Operation and maintenance manuals.
 - 4. Warranties.
 - 5. Instruction of Durham Public School's personnel.
 - 6. Final cleaning.
- B. Specific requirements of each contract are also indicated in individual Specification Sections, All Bid Documents and on Drawings.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Contractor to prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Durham Public Schools of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Durham Public Schools unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Durham Public Schools. Label with manufacturer's name and model number where applicable.
 - 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

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B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer, Owner, Owner's Rep or Program / Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, Owner, Owner's Rep or Program / Construction Manager, that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Final Completion must be achieved within 30 calendar days of Substantial Completion.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer, Owner, Owner's Rep or Program / Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will accept for review, a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

B. Organize list of spaces in sequential order.

1. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
2. Include the following information at the top of each page:

CLOSEOUT PROCEDURES

- a. Project name.
- b. Date.
- c. Name of Engineer.
- d. Name of Contractor.
- e. Page number.

1.6 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Engineer, Owner, Owner's Rep or Program / Construction Manager reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
 1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Mark important additional information that was either shown schematically or omitted from original Drawings.
 4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
 6. Provide a spreadsheet inventory list of all filters, sizes, locations, etc. prior to Substantial Completion.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

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1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Note related Change Orders, Record Drawings, and Product Data, where applicable.

1.7 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 working days of completion of designated portions of the Work that are completed and occupied or used by Durham Public Schools during construction period.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual. Utilize the format of the attached Warranty and Closeout index at the end of section 01 78 36 Warranties.
 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Provide heavy duty dividers with pre-numbered plastic coated tabs for each separate warranty. Provide a typed description of the product or installation on the index (see example at the end of this section). Include the spec section number, name of the product, and the name, address, and telephone number of the Installer on the Contractor and Supplier List at the front of the warranty binder.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor. Use the spine & cover sheet examples at the end of this section as templates.
 1. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.
- D. Provide letter certifying that no materials containing asbestos or lead have been used in the construction of this project.
- E. Provide 1 hard copies, and 1 electronic copy in Portable Document Format (PDF), of all closeout documents to Program Manager for distribution to Owner. This includes O & M Manuals, Project Documents, As-Built Drawings, Approvals, Certificates, and all warranty information. PDF is to be verified as fully searchable and Indexed by spec section number, or by plan section and page number for drawings, and the index shall be fully linked with the document pages.

1.8 O & M BINDERS

1. Bind O & M Data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper. Organize

CLOSEOUT PROCEDURES

- warranty documents into an orderly sequence based on the table of contents of the Project Manual. Utilize the format of the attached O & M index at the end of this section.
2. Provide heavy duty dividers with pre-numbered plastic coated tabs for each separate Maintenance Manual. Provide a typed description of the product or installation on the index (see example at the end of this section). Include the spec section number, name of the product, and the name, address, and telephone number of the Installer on the Contractor and Supplier List at the front of the O & M binder.
 3. Identify each binder on the front and spine with the typed or printed title "Operations & Maintenance," Project title or name, and name of the Contractor. Use the spine & cover sheet examples at the end of this section as templates.
 4. Provide additional copies of each required warranty, as necessary, for inclusion in each related section of O & M Binder.
- 1.9 O & M Manuals Digital
- A. Assemble one (1) digital set of operations and maintenance data indicating the operation and maintenance of each piece of equipment... Include operation and maintenance data required in individual Specification Sections and as follows:
 1. Maintenance Data:
 - a. Manufacturers information, including list of spare parts
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds
 - B. Organize operation and maintenance manuals per Section 1.10 Closeout Document Organization.
 - C. Operation and Maintenance manuals must have operation and maintenance instructions. Submittals are not acceptable replacements for operation and maintenance instructions. If submittals are submitted instead of O&M information the manuals will not be reviewed and will be rejected. Operation and Maintenance manuals **must also contain** copies of approved **Submittal Product Data and Shop Drawings**
 - D. Please make sure the following conditions are adhered to:
 1. All warranties must be made out to the owner, (i.e. Durham Public Schools) and contain the project name and address.
 2. All warranties must have proof of authenticity. Contractor and installer warranties must be signed originals specifying project, owner and warranty period commencing from the date of substantial completion. The document can state "from substantial completion" or give the actual Engineer certified date. Either of the following is considered acceptable for manufacturers' warranties: An original manufacturer warranty with name of project, owner and date of substantial completion, a manufacturer warranty accompanied by an original letter from the manufacturer bearing original or electronic signatures of manufacturer, certifying

CLOSEOUT PROCEDURES

the authenticity of the manufacturer's standard warranty naming project, school, and date of substantial completion; a manufacturer's warranty accompanied by a manufacturer's agent original signed letter certifying the authenticity and naming project, owner and date of substantial completion. A manufacturer's agent certification will only be considered acceptable if it is accompanied by a signed letter from the manufacturer verifying the agent has Power of Attorney or specific authority to authenticate the manufacturer's warranty as "project specific".

3. Check that warranties include labor where specified.
4. The Prime contractor's corporate seal (if a corporation) is required on section 00 65 23 warranty.
5. The commencement date for all warranties is the date of substantial completion. This date shall be listed on the warranty or shall say "from the date of declared substantial completion". A manufacturer's warranty on equipment shall always cover the gap from early start up to the date of substantial completion. This is a part of the contract and a cost of the work.
6. Warranties cannot contain conditional clauses (such as "this warranty is not or shall not become effective until the contractor has been paid in full").
7. **A separate training letter and associated sign in sheet are required for each owner training session.** A list of required training sessions will be included in the warranty closeout document binder.
8. Stock Materials shall be transported to the DPS Maintenance Department at 2011 Hamlin Rd., Durham, NC, or other location designated by Durham Public Schools. A copy of the signed transmittal showing delivery of stock materials took place is to be included in the warranty closeout binder.
9. An As-Built Survey showing "line and grade" is required to be submitted and approved by the civil engineer for all site work, site utilities and buildings installed under this contract.
10. All keys listed below shall be turned over to the owner in one submission package accompanied by a signed itemized transmittal identifying the contents of the submission. A copy of the signed transmittal is to be included in the warranty closeout binder along with the hardware suppliers "key letter" sent to the owner under separate cover when the door hardware keys were sent.
 - a. Door hardware keys in a key box (sent directly to DPS by the hardware supplier with separate transmittals)
 - b. Kitchen equipment keys
 - c. Walk-in cooler & freezer keys
 - d. Roll up door & grill keys
 - e. Elevator keys
 - f. Electrical panel keys – two (2) per panel
 - g. HVAC controls panel keys
 - h. Fire alarm panel keys - two (2) per panel

CLOSEOUT PROCEDURES

- i. Security alarm panel keys
- j. Sound system cabinet keys
- k. Hose bib / wall hydrant keys - two (2) per hose bib / wall / hydrant
- l. Classroom teacher's cabinet keys – two (2) per lockable cabinet
- m. Generator Keys
- n. Press Box / Announcer's Box Keys – 2 minimum
- o. Fire Alarm Device Keys – two (2) per device
- p. Access Panel door keys

I.10 CLOSEOUT DOCUMENTATION ORGANIZATION

A. Instructions for Closeout Binders

1. DPS will provide a Pdf or Microsoft Word and Excel files to the contractor for each project with the format information for the three ringed **Warranty Binders and O & M Binders**. The Prime contractor(s) will prepare (1) identical Warranty/Closeout binders and (1) identical sets of O&M binders with original documents in each binder.

There will be a **minimum of 1 binder total** (1 each for Warranty / Closeout and 1 each for O&M with original documents) submit one (1) to the Engineer for review and forwarded to GCS if acceptable. The fourth copy of the binders is to be kept by the contractor as a back-up set, in case the originals are lost in transit between offices.

A table of contents and corresponding numbered divider tabs will be included and MUST be utilized to identify and separate the contents. If the table of contents and numbered tabs are not utilized, the manuals will not be reviewed and will be rejected.

2. The Warranty and O&M table of contents was taken directly from the Specifications, if any of the items listed do not apply (have been deleted/changed by change order **insert an "exception sheet" behind the corresponding numbered tab** (samples attached) with the following information:
 - a. Item that was changed, deleted or not required with a signature block for the contractor.

Note: DO NOT leave a blank space behind a tab. If the information is located somewhere else put a copy of it behind the appropriate tab or put a sheet behind the tab stating exactly where the information is located (i.e. "Product data is included on the shop drawing.").

3. Operation and Maintenance manuals must have operation and maintenance instructions. Submittals are not acceptable replacements for operation and maintenance instructions. If submittals are submitted instead of O&M information the manuals will not be reviewed and will be rejected. Operation and Maintenance manuals **must also contain** copies of approved **Submittal Product Data and Shop Drawings. Shop Drawings should be numbered with the appropriate spec section number, compiled in spec section order and submitted as a rolled up drawing set with the O & M manuals.**

CLOSEOUT PROCEDURES

Small format shop drawings (i.e. 11 X 17 and smaller) should be 3-hole punched and placed in the O&M binder behind the appropriate tab.

Where multiple O & M Binders are required to complete a single set, indicate the Volume # of the set # (IE. Volume 1 of 2), and the Tab #s included in each binder (IE. Tabs 1 thru 25).

The Engineer is to ensure that there are no blank tabs in the binders before forwarding them to GCS.

4. Provide following information on the cover and spine of each manual:

Name of School or Project

Name of the Manual, i.e., **Warranty & Closeout Manual** or **O&M Manual**.

Contractor's Name

Contract Type i.e. **General Prime Contract (if multi-prime project) or Single Prime Contract**

Name of Engineer/Engineer

Date of substantial completion

Volume _____ of _____

Tabs _____ Thru _____

B. Instructions for Digital Closeouts

All closeout documentation shall be submitted in electronic format unless noted otherwise. The information is to be organized using Window Explorer folder system as outlined below:

I. Folder #1 titled "Certificates and Approvals"

- a. Project Contact List (all participants including contractors, subcontractors, suppliers, etc.)
- b. Letters from contractor requesting substantial and final inspections
- c. Certificate of Occupancy by local AHJ
- d. Required approvals from other agencies
- e. Certificate of Substantial Completion
- f. Certificate of Final Completion

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- g. Punchlist(s)
 - h. Contractor letter stating no asbestos-containing materials were used in the construction of the project.
 - i. Any other documentation requested by the owner.
2. Folder #2 titled "Warranty Manual"
- a. Contractor's General Warranty
 - b. Manufacturers / Installer / Equipment and System Warranties
3. Folder #3 titled "Submittal Documents"
- a. All final approved shop drawings submittals organized in CSI Masterformat
 - b. Documentation of all manufacturer / material color and finish selections (by schedule or location)
4. Folder #4 titled "O&M Manual": Requirements are outlined in the Project Manual
5. Folder #5 titled "Record Drawings and Project Manual"
- a. PDF files of all final drawings
 - b. PDF of Project Manual
 - c. Electronic CAD files of all drawings in format acceptable to the Owner
 - d. PDF of Bid Addendum
 - e. Scanned PDF set of field marked up as-built drawings.

PART 2- PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3- EXECUTION

3.1 FINAL CLEANING

CLOSEOUT PROCEDURES

- A. General: Provide final cleaning. Final Cleaning is the responsibility of the General Contractor. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits
 - b. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - c. Remove snow and ice to provide for safe access to facility. Continue providing this service until substantial completion has been achieved.
 - d. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults / closets, manholes, attics, mezzanines and similar spaces.
 - e. Sweep concrete floors broom clean with sweeping compound.
 - f. Vacuum carpet and similar soft surfaces, removing debris and excess nap; have carpets professionally shampooed / cleaned if visible soil or stains remain.
 - g. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision obscuring materials. Replace chipped or broken glass and other materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - h. Remove labels that are not permanent.
 - i. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - j. Remove any paint from "UL" and similar labels, including mechanical and electrical nameplates.
 - k. Wipe surfaces of mechanical and electrical equipment, elevator equipment and similar equipment. Remove excess lubrication, paint and mortar drippings, and other foreign substances.
 - l. Replace parts subject to unusual operating conditions.
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of all diffusers, registers and grilles.
 - o. Clean ducts, blowers and coils.
 - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned out bulbs, and those noticeably dimmed by hours of use, and

CLOSEOUT PROCEDURES

- defective and / or noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - q. GC to be responsible for professional final cleaning of the interior of the building to include six (6) coats of wax on all VCT or hard surface flooring.
 - r. All fixtures to be wiped clean. Food Service equipment to be cleaned. The GC warrants that it will provide the facility in a "white glove test" condition to the Owner.
 - s. GC to be responsible for final cleaning of building exterior to include windows and all horizontal and vertical surfaces.
 - t. GC to pressure wash all exterior hard surfaces.
 - u. GC to provide the same cleaning as listed herein for adjacent spaces that have been effected by the construction process.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Durham Public Schools' property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.
- C. Pest Control: Engage an experience, licensed exterminator to make a final inspection and rid Project of any rodents, insects, and other pests. Exterminator to provide a written report to Owner prior to Substantial Completion being awarded.
- D. The following quantities of extra materials are part of the project base bid and shall be turned over to the owner at the end of the project. Additional items listed in various specification sections are also required to be turned over to the owner at the end of the project.

END OF SECTION 01 77 00



Insert Project Name here
OPERATION & MAINTENANCE MANUAL
SINGLE PRIME CONTRACTOR

Insert Contractor Name Here.

Architect: Insert Designer Name Here

Date of Substantial Completion: _____

Volume _____ of _____

Tabs _____ thru _____



**SINGLE PRIME
CONTRACTOR**

**SINGLE PRIME
CONTRACTOR**

**SINGLE PRIME
CONTRACTOR**

XYZ, INC.

XYZ, INC.

XYZ, INC.

**OPERATIONS
&
MAINTENANCE
MANUAL**

**OPERATIONS
&
MAINTENANCE
MANUAL**

**OPERATIONS
&
MAINTENANCE
MANUAL**

**NAME OF
PROJECT**

**NAME OF
PROJECT**

**NAME OF
PROJECT**

**Substantial Completion
Date:**

**Substantial Completion
Date:**

**Substantial Completion
Date:**

Volume ____ **of** ____

Volume ____ **of** ____

Volume ____ **of** ____

Tabs ____ **thru** ____

Tabs ____ **thru** ____

Tabs ____ **thru** ____

Example - Operations & Maintenance Index XYZ Middle School - Addition & Renovation

Tab #	Spec Section	Title	As-Builts	O & M	Product Data	Shop Drawings
1	02361	Termite Control			X	
2	02510	Water Distribution				
		Valve & Accessories		X	X	
		Water Meters & Accessories			X	
		Backflow Preventers and Assemblies			X	
		Fire Hydrants			X	
		Fire Dept. Connections			X	
		Protective Enclosures				
3	02530	Sanitary Sewage System - Piping			X	
4	02620	Subdrainage			X	
5	02630	Storm Drainage				
		Special Pipe Fittings			X	
		Backwater Valves			X	
		Drains			X	
		Channel Drainage System			X	
		Storage & Leaching Chambers			X	
		Manholes			X	X
		Catch Basins			X	X
		Stormwater Detention			X	X
6	02741	Hot Mix Asphalt Paving			X	
7	02751	Cement Concrete Pavement			X	
8	02764	Pavement Joint Sealants			X	
9	02794	Synthetic Grass Surfacing		X	X	X
10	02795	Reinforced Grass Paving			X	
11	02540	Running Track Surfaces		X	X	X
12	02810	Irrigation System		X		X
		Sprinkler Heads			X	
		Valves: Manual and Automatic			X	
		Controllers			X	
		Valve Boxes			X	
		Pipe & Fittings			X	
		Wire & Connectors			X	
		Quick Coupling Valves			X	
		Rain Sensors			X	
		Grounding Equipment			X	
		Air Vacuum/ Relief Valves			X	
		Miscellaneous Materials			X	
13	02812	Irrigation Pump System		X		
		Centrifugal Pump			X	
		VFD Drive			X	
		Control Panel			X	

XYZ Middle School - Addition & Renovation

Tab #	Spec Section	Title	As-Builts	O & M	Product Data	Shop Drawings
		Flow Switch			X	
		Pressure Switch			X	
		Check Valve			X	
		Gate Valve			X	
		Pipe & Fittings			X	
		Level Sensors			X	
14	02821	Chain Link Fences & Gates			X	
15	02832	Segmental Retaining Walls			X	X
16	02881	Outdoor Athletic Equipment			X	X
17	02920	Seeding			X	
18	02925	Sprigging			X	
19	02930	Exterior Plants			X	
20	03300	Cast In Place Concrete			X	
21	03410	Structural Precast Concrete - Plant Cast			X	X
22	03451	Plant Precast Architectural Concrete Wall Units			X	X
23	04810	Unit Masonry			X	
24	05120	Structural Steel			X	X
25	05210	Steel Joist			X	X
26	05310	Steel Deck			X	X
27	05500	Metal Fabrications				X
28	05511	Metal Stairs				X
29	05513	Alternating Tread Metal Stairs				X
30	05521	Pipe & Tube Railings				X
31	05811	Architectural Joint Systems			X	X
32	06402	Interior Architectural Woodwork			X	X
33	06420	Paneling			X	X
34	07115	Bituminous Dampproofing			X	
35	07170	Bentonite Waterproofing			X	X
36	07210	Building Insulation			X	
37	07331	Roof Garden System		X	X	
38	07411	Metal Roof Panels			X	X
39	07412	Metal Wall Panels		X	X	X
40	07552	SBS Modified Bituminous Membrane Roofing		X	X	X
41	07620	Sheet Metal Flashing & Trim			X	X
42	07716	Roof Expansion Assemblies			X	X
43	07720	Roof Accessories			X	X
44	07811	Sprayed Fire Resistive Materials			X	
45	07841	Through Penetration Firestop Systems			X	
46	07842	Fire Resistive Joint Systems			X	
47	07920	Joint Sealants			X	
48	08111	Standard Steel Doors & Frames			X	X
49	08211	Flush Wood Doors			X	X
50	08331	Overhead Coiling Service Doors			X	X

XYZ Middle School - Addition & Renovation

Tab #	Spec Section	Title	As-Builts	O & M	Product Data	Shop Drawings
51	08332	Overhead Coiling Counter Doors			x	x
52	08411	Aluminum Framed Entrances & Storefronts			x	x
53	08520	Aluminum Windows			x	x
54	08711	Door Hardware			x	
55	08800	Glazing			x	
56	08911	Glazed Aluminum Curtain Walls			x	x
57	09220	Portland Cement Plaster			x	
58	09310	Ceramic Tile			x	
59	09511	Acoustical Panel Ceilings			x	
60	09622	Resilient Sports Floor Covering		x	x	
61	09641	Wood Stage Floor		x	x	
62	09642	Wood Stage Floor Assemblies			x	
63	09651	Resilient Floor Tile			x	
64	09653	Resilient Wall Base & Accessories			x	
65	09680	Carpet		x	x	
66	09771	Fabric Banners			x	
67	09841	Acoustical Wall Panels		x	x	x
68	09912	Painting			x	
69	09960	High Performance Coatings			x	
70	10101	Visual Display Surfaces			x	
71	10125	Bulletin Boards & Display Cases			x	
72	10155	Toilet Compartments			x	x
73	10190	Cubicles			x	
74	10200	Louvers and Vents			x	x
75	10350	Flagpoles			x	x
76	10431	Signs			x	x
77	10505	Metal Lockers		x	x	x
78	10520	Fire Protection Specialties			x	
79	10671	Metalk Storage Shelving			x	
80	10675	Prefabricated Wood Storage Shelving			x	x
81	10801	Toilet and Bath Accessories			x	
82	10900	Miscellaneous Specialties			x	
83	11050	Library Casework and Equipment			x	x
84	11062	Folding and Portable Stage		x	x	x
85	11063	Stage Curtains		x	x	
86	11067	Sound Reflector Panels			x	x
87	11132	Projection Screens			x	
88	11400	Food Service Equipment		x	x	x
89	11451	Residential Appliances		x	x	
90	11490	Gymnasium Equipment		x	x	x
91	11610	Laboratory Fume Hoods		x	x	x
92	12351	Music Instrument Storage Casework			x	x
93	12355	Institutional Casework			x	x

XYZ Middle School - Addition & Renovation

Tab #	Spec Section	Title	As-Builts	O & M	Product Data	Shop Drawings
94	12362	Wood Laboratory Casework			X	X
95	12491	Horizontal Louver Blinds			X	X
96	12610	Fixed Audience Seating			X	X
97	12660	Telescoping Stands		X	X	X
98	13126	Grandstands		X	X	X
99	13915	Fire Suppression Piping	X	X	X	X
100	13921	Electric Driven Antifugal Fire Pump		X	X	X
101	14240	Hydraulic Elevators		X	X	X
102	15055	Motors		X	X	
103	15071	Mechanical Vibration & Siesmic Controls			X	X
104	15080	Mechanical Insulation			X	
105	15110	Valves			X	
106	15122	Meters and Gages			X	X
107	15140	Domestic Water Piping			X	
108	15150	Sanitary Waste and Vent Piping			X	
109	15181	Hydronic Piping			X	
110	15185	Hydronic Pumps			X	
111	15194	Fuel Gas Piping			X	
112	15221	Chemical Waste Piping		X	X	
113	15410	Plumbing Fixtures		X	X	
114	15412	Emergency Plumbing Fixtures		X	X	
115	15415	Drinking Fountains & Water Coolers		X	X	
116	15430	Plumbing Specialties				
		Backflow Preventers and Water Regulators		X	X	
		Balancing valves, water filters & strainers		X	X	
		Thermostatic water mixing valves & water tempering valves		X	X	
		Water hammer arresters, air vents & trap seal primer valves & systems			X	
		Drain valves, hose bibbs, hydrants & hose stations		X	X	
		Outlet boxes and washer supply outlets			X	
		Backwater valves, cleanouts, floor drains, open receptors, trench drains & roof drains			X	
		Air-admittance valves, vent caps, vent terminals & roof flashing assemblies			X	
		Grease Interceptors		X	X	X
		Sleeve penetration systems			X	
		Trap seal primer valves & systems		X	X	
117	15441	Domestic Water Pumps		X	X	X
118	15450	Potable Water Storage Tanks			X	
119	15486	Fuel-Fired Water Heaters		X	X	X
120	15513	Condensing Boilers		X	X	X
121	15550	Breechings, Chimneys & Stacks			X	X
122	15622	Thermal Storage		X	X	X
123	15626	Rotary Screw Water Chillers		X	X	X

XYZ Middle School - Addition & Renovation

Tab #	Spec Section	Title	As-Builts	O & M	Product Data	Shop Drawings
124	15635	Refrigerant Monitoring & Safety Equipment		x	x	x
125	15641	Open-Circuit, Mechanical Draft Cooling Tower		x	x	x
126	15725	Modular Indoor Air Handling Units		x	x	x
127	15732	Rooftop Air Conditioning Units		x	x	x
128	15738	Split System Air Conditioning Unit		x	x	
129	15756	Plate and Frame Heat Exchangers		x	x	x
130	15767	Propeller Unit Heaters		x	x	
131	15785	Air to Air Energy Recovery Units			x	
132	15815	Metal Ducts				x
133	15816	Fabric Ducts			x	
134	15820	Duct Accessories				
		Backdraft dampers			x	
		Volume dampers			x	
		Motorized control dampers		x	x	
		Fire dampers			x	
		Duct silencers			x	
		Turning vanes			x	
		Duct mounting access doors			x	
		Flexible connectors			x	
		Flexible ducts			x	
135	15840	Air Terminal Units		x	x	
136	15855	Diffusers, Registers and Grilles			x	
137	15900	HVAC Instrumentation and Controls	x	x	x	x
138	16060	Grounding and Bonding			x	x
139	16072	Electrical Supports and Seismic Restraints			x	x
140	16075	Electrical Identification			x	
141	16120	Conductors and Cable			x	
142	16130	Raceways and Boxes			x	
143	16139	Cable Trays			x	x
144	16140	Wiring Devices			x	
145	16145	Lighting Control Devices			x	
146	16231	Packaged Engine Generators		x	x	x
147	16269	Variable Frequency Controllers			x	x
148	16289	Transient Voltage Suppression			x	
149	16410	Enclosed Switches and Circuit Breakers			x	
150	16415	Transfer Switches			x	
151	16420	Enclosed Controllers			x	
152	16441	Switchboards			x	
153	16442	Panelboards			x	
154	16461	Dry Type Transformers			x	
155	16491	Fuses			x	
156	16511	Interior Lighting		x	x	
157	16555	Stage Lighting		x	x	x

Closeout Requirements

[Insert Date]

Contractor: [Insert Contractor] Substantial Completion Date: [Insert Substantial Completion Date]

The following documents must be completed and submitted by each prime contractor. Documents shall be submitted to the Architect in a single package with this (completed) checklist attached. The Architect must receive all documents before the Contractor's Final Application for Payment can be reviewed.

- _____ 1. *Final Application for Payment (with Continuation Sheets & Tax Reports)
- _____ 2. *Executed Certificate of substantial Completion with punch list attached.
- _____ 3. *Contractor's Affidavit of Payment of Debts and Claims (fully executed – AIA Form G706)
- _____ 4. *Contractor's Affidavit of Release of Liens (fully executed – AIA Form G 706A)
- _____ 5. *Release of liens by subcontractors and/or vendors (fully executed – when required)
- _____ 6. *Consent of Surety to Final Payment (AIAG707)
- _____ 7. Certificate of Occupancy from proper municipality
- _____ 8. Contractor's One-Year Warranty (notarized)
- _____ 9. Warranty summary sheet and original warranties for specific items (roof, motors, etc.)
- _____ 10. Certification letter from Contractor stating that no asbestos containing materials were used.
- _____ 11. Final list of all subcontractors with names, addresses, and phone numbers
- _____ 12. Record Drawings and cover letter indicating that they have been reviewed and are as accurate and complete as possible.
- _____ 13. Certified Testing and Balancing Report for HVAC System with cover letter indicating it has been reviewed and approved by consulting Engineer.

*** Provide directly to Architect (Attn: Director of Bidding and Contract Services). Do not include in O&M manuals.**

All remaining items shall be directed to the Architect's Construction Administrator.

Contractor's Signature _____

Date _____

Architect/Engineer's Signature _____

Date _____

DPS Close-out Manager's Signature _____

Date _____

WARRANTIES

PART 1 - GENERAL

.1 RELATED DOCUMENTS

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

.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.
 - 1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 1 Section "Submittals" specifies procedures for submitting warranties.
 - 2. Division 1 Section "Closeout Procedures" specifies contract closeout procedures.
 - 3. Divisions 2 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.
 - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

WARRANTIES

- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

5 SUBMITTALS

- A. Submit written warranties in Portable Document Format (PDF) to the Program Manager prior to the date certified for Substantial Completion. If the Program Manager's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Program Manager. Note that the warranty period does not commence until Certificate of Substantial Completion has been issued for the project.
 - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Program Manager within 15 days of completion of that designated portion of the Work.
- B. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Program Manager, for approval prior to final execution.
 - 1. Refer to Divisions 2 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.

WARRANTIES

2. Provide 1 hard copies, and 1 electronic copy in Portable Document Format (PDF), of all closeout documents to Engineer for distribution to Owner. This includes O & M Manuals, Project Documents, As-Built Drawings, Approvals, Certificates, and all warranty information. PDF is to be verified as fully searchable and Indexed by spec section number, or by plan section and page number for drawings, and the index shall be fully linked with the document pages.

.6 O & M BINDERS

1. Bind O & M Data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual. Utilize the format of the attached O & M index at the end of this section.
2. Provide heavy duty dividers with pre-numbered plastic coated tabs for each separate Maintenance Manual. Provide a typed description of the product or installation on the index (see example at the end of this section). Include the spec section number, name of the product, and the name, address, and telephone number of the Installer on the Contractor and Supplier List at the front of the O & M binder.
3. Identify each binder on the front and spine with the typed or printed title "Operations & Maintenance," Project title or name, and name of the Contractor. Use the spine & cover sheet examples at the end of this section as templates.
4. Provide additional copies of each required warranty, as necessary, for inclusion in each related section of O & M Binder.

.7 O & M Manuals Digital

- A. Assemble one (1) digital set of operations and maintenance data indicating the operation and maintenance of each piece of equipment... Include operation and maintenance data required in individual Specification Sections and as follows:
 1. Maintenance Data:
 - a. Manufacturers information, including list of spare parts
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds
- B. Organize operation and maintenance manuals per Section 1.10 Closeout Document Organization.
- C. Operation and Maintenance manuals must have operation and maintenance instructions. Submittals are not acceptable replacements for operation and maintenance instructions. If submittals are submitted instead of O&M information the manuals will not be reviewed and will be rejected. Operation and Maintenance manuals **must also contain** copies of approved **Submittal Product Data and Shop Drawings**
- D. Please make sure the following conditions are adhered to:

WARRANTIES

1. All warranties must be made out to the owner, (i.e. Durham Public Schools) and contain the project name and address.
2. All warranties must have proof of authenticity. Contractor and installer warranties must be signed originals specifying project, owner and warranty period commencing from the date of substantial completion. The document can state "from substantial completion" or give the actual Engineer certified date. Either of the following is considered acceptable for manufacturers' warranties: An original manufacturer warranty with name of project, owner and date of substantial completion, a manufacturer warranty accompanied by an original letter from the manufacturer bearing original or electronic signatures of manufacturer, certifying the authenticity of the manufacturer's standard warranty naming project, school, and date of substantial completion; a manufacturer's warranty accompanied by a manufacturer's agent original signed letter certifying the authenticity and naming project, owner and date of substantial completion. A manufacturer's agent certification will only be considered acceptable if it is accompanied by a signed letter from the manufacturer verifying the agent has Power of Attorney or specific authority to authenticate the manufacturer's warranty as "project specific".
3. Check that warranties include labor where specified.
4. The Prime contractor's corporate seal (if a corporation) is required on section 00 65 23 warranty.
5. The commencement date for all warranties is the date of substantial completion. This date shall be listed on the warranty or shall say "from the date of declared substantial completion". A manufacturer's warranty on equipment shall always cover the gap from early start up to the date of substantial completion. This is a part of the contract and a cost of the work.
6. Warranties cannot contain conditional clauses (such as "this warranty is not or shall not become effective until the contractor has been paid in full").
7. **A separate training letter and associated sign in sheet are required for each owner training session.** A list of required training sessions will be included in the warranty closeout document binder.
8. Stock Materials shall be transported to the DPS Maintenance Department at 2011 Hamlin Rd., Durham, NC, or other location designated by Durham Public Schools. A copy of the signed transmittal showing delivery of stock materials took place is to be included in the warranty closeout binder.
9. An As-Built Survey showing "line and grade" is required to be submitted and approved by the civil engineer for all site work, site utilities and buildings installed under this contract.
10. All keys listed below shall be turned over to the owner in one submission package accompanied by a signed itemized transmittal identifying the contents of the submission. A copy of the signed transmittal is to be included in the warranty closeout binder along with

WARRANTIES

the hardware suppliers “key letter” sent to the owner under separate cover when the door hardware keys were sent.

- a. Door hardware keys in a key box (sent directly to DPS by the hardware supplier with separate transmittals)
- b. Kitchen equipment keys
- c. Walk-in cooler & freezer keys
- d. Roll up door & grill keys
- e. Elevator keys
- f. Electrical panel keys – two (2) per panel
- g. HVAC controls panel keys
- h. Fire alarm panel keys - two (2) per panel
- i. Security alarm panel keys
- j. Sound system cabinet keys
- k. Hose bib / wall hydrant keys - two (2) per hose bib / wall / hydrant
- l. Classroom teacher’s cabinet keys – two (2) per lockable cabinet
- m. Generator Keys
- n. Press Box / Announcer’s Box Keys – 2 minimum
- o. Fire Alarm Device Keys – two (2) per device
- p. Access Panel door keys

.8 CLOSEOUT DOCUMENTATION ORGANIZATION

A. Instructions for Closeout Binders

1. DPS will provide a Pdf or Microsoft Word and Excel files to the contractor for each project with the format information for the three ringed **Warranty Binders and O & M Binders**. The Prime contractor(s) will prepare (1) identical Warranty/Closeout binders and (1) identical sets of O&M binders with original documents in each binder.

There will be a **minimum of 1 binder total** (1 each for Warranty / Closeout and 1 each for O&M with original documents) submit one (1) to the Engineer for review and forwarded to GCS if acceptable. The fourth copy of the binders is to be kept by the contractor as a back-up set, in case the originals are lost in transit between offices.

A table of contents and corresponding numbered divider tabs will be included and MUST be utilized to identify and separate the contents. If the table of contents and numbered tabs are not utilized, the manuals will not be reviewed and will be rejected.

2. The Warranty and O&M table of contents was taken directly from the Specifications, if any of the items listed do not apply (have been deleted/changed by change order **insert an “exception sheet” behind the corresponding numbered tab** (samples attached) with the following information:
 - a. Item that was changed, deleted or not required with a signature block for the contractor.

WARRANTIES

Note: DO NOT leave a blank space behind a tab. If the information is located somewhere else put a copy of it behind the appropriate tab or put a sheet behind the tab stating exactly where the information is located (i.e. "Product data is included on the shop drawing.").

3. Operation and Maintenance manuals must have operation and maintenance instructions. Submittals are not acceptable replacements for operation and maintenance instructions. If submittals are submitted instead of O&M information the manuals will not be reviewed and will be rejected. Operation and Maintenance manuals **must also contain** copies of approved **Submittal Product Data and Shop Drawings. Shop Drawings should be numbered with the appropriate spec section number, compiled in spec section order and submitted as a rolled up drawing set with the O & M manuals. Small format shop drawings (i.e. 11 X 17 and smaller) should be 3-hole punched and placed in the O&M binder behind the appropriate tab.**

Where multiple O & M Binders are required to complete a single set, indicate the Volume # of the set # (IE. Volume 1 of 2), and the Tab #s included in each binder (IE. Tabs 1 thru 25).

The Engineer is to ensure that there are no blank tabs in the binders before forwarding them to GCS.

4. Provide following information on the cover and spine of each manual:

Name of School or Project

Name of the Manual, i.e., **Warranty & Closeout Manual** or **O&M Manual**.

Contractor's Name

Contract Type i.e. **General Prime Contract (if multi-prime project) or Single Prime Contract**

Name of Engineer/Engineer

Date of substantial completion

Volume _____ of _____

Tabs _____ Thru _____

B. Instructions for Digital Closeouts

WARRANTIES

All closeout documentation shall be submitted in electronic format unless noted otherwise. The information is to be organized using Window Explorer folder system as outlined below:

1. Folder #1 titled "Certificates and Approvals"
 - a. Project Contact List (all participants including contractors, subcontractors, suppliers, etc.)
 - b. Letters from contractor requesting substantial and final inspections
 - c. Certificate of Occupancy by local AHJ
 - d. Required approvals from other agencies
 - e. Certificate of Substantial Completion
 - f. Certificate of Final Completion
 - g. Punchlist(s)
 - h. Contractor letter stating no asbestos-containing materials were used in the construction of the project.
 - i. Any other documentation requested by the owner.
2. Folder #2 titled "Warranty Manual"
 - a. Contractor's General Warranty
 - b. Manufacturers / Installer / Equipment and System Warranties
3. Folder #3 titled "Submittal Documents"
 - a. All final approved shop drawings submittals organized in CSI Masterformat
 - b. Documentation of all manufacturer / material color and finish selections (by schedule or location)
4. Folder #4 titled "O&M Manual": Requirements are outlined in the Project Manual
5. Folder #5 titled "Record Drawings and Project Manual"
 - a. PDF files of all final drawings
 - b. PDF of Project Manual
 - c. Electronic CAD files of all drawings in format acceptable to the Owner
 - d. PDF of Bid Addendum
 - e. Scanned PDF set of field marked up as-built drawings.

Exception to Contract Documents

WARRANTIES

For use when a work item identified in the DPS provided Warranty and O&M Binders are deleted from the project or changed and recorded by change order.

Name of Project: _____

Specification Section: _____

- The product date and submittal information
- O&M Manuals;
- Warranty;
- Shop Drawings were not required for this specification section as a result of a change order:

_____ dated _____.

Name,
Project Manager, (CompanyName)
Contractor

Name
Construction Administrator, (CompanyName)
Architect

PART 2 - PRODUCTS (Not Applicable)

WARRANTIES

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 78 36



Name of Project

WARRANTY/ CLOSEOUT MANUAL

SINGLE PRIME CONTRACTOR

XYZ Construction, Inc.

Architect: ABC Architecture, Inc.

Date of Substantial Completion: _____

Volume _____ of _____

Tabs _____ thru _____



**SINGLE PRIME
CONTRACTOR**

XYZ, INC.

**CLOSEOUT/
WARRANTY
MANUAL**

**NAME OF
PROJECT**

**Substantial Completion
Date:**

Volume _____ **of** _____

Tabs _____ **thru** _____

**SINGLE PRIME
CONTRACTOR**

XYZ, INC.

**CLOSEOUT/
WARRANTY
MANUAL**

**NAME OF
PROJECT**

**Substantial Completion
Date:**

Volume _____ **of** _____

Tabs _____ **thru** _____

**SINGLE PRIME
CONTRACTOR**

XYZ, INC.

**CLOSEOUT/
WARRANTY
MANUAL**

**NAME OF
PROJECT**

**Substantial Completion
Date:**

Volume _____ **of** _____

Tabs _____ **thru** _____

Section 01740
Warranty Index

Example - Warranty & Closeout Index
XYZ Middle School - Addition & Renovation

Date of Substantial Completion

Tab #	Spec Section	Title	Warranty Period
1		Cover Page	
2		Table of Contents	
3		Audit - Table of Contents	
4		Certificate of Substantial Completion	
5		Certificate of Occupancy	
6		Contractor and Supplier List	
7		Contractor's General Warranty on Letterhead	
8	00 6900	Contractor's General Warranty	1 year / 2 year Leaks
9	00 6910	Asbestos Free Warranty	
10	00 6920	Final Certificate & Release	
11	00 6930	Roofing System Warranty	5 year material 2 year labor
12	00 6940	Sealant Work Warranty	15 year
13	00 6950	Insulating Glass Replacement Labor Warranty	10 year
14	01 7400	Roofing Service Agreement	2 year
15	07 1326	Sheet Waterproofing	5 year material
16	07 5300	Membrane Roofing	15 Year
17	08 1429	Wood Doors	2 year labor
18	08 4113	Storefronts	2 year
19	08 4413	Curtainwalls	2 year
20	08 7100	Hardware	10 year
21	08 8000	Glazing	10 year
22	09 6816	Carpeting	Lifetime
23	10 1100	Display Cases	Lifetime
24	10 1426	Post and Panel Signs	5 year
25	10 2115	Toilet Compartments	15 year
26	10 2813	Toilet Accessories	15 year
27	10 5526	Parcel Lockers	10 year
28	23 8119	AC Units	5 year compressor
		Full Maintenance	1 year
29	26 4010	TVSS System	5 year
30	26 7020	FA System	2 year
31	31 3000	Termite Control	3 year

Section 01740

Tab #	Spec Section	Title	Warranty Period

Section 01740

Tab #	Spec Section	Title	Warranty Period
		CERTIFICATIONS, LETTERS & TEST REPORTS	
		<i>(Tab numbering shall be continuous following all Special Warranties)</i>	
32		Key Letter and Transmittal	
33		Stock Materials Letter and Transmittal	
34		Bus Lot Information	
35		Elevator Inspection Report	
36		Domestic Back Flow Preventer Test and Maintenance Report	
37		Fire Sprinkler Back Flow Preventer Test and Maintenance Report	
38		Fire Retardant Treatment Log	
39		Other Specified Training Letters / Sign-In Sheets	
40		Kitchen Equipment Index (item #, Qty, Mfr, Serial #, Cost)	
41		Valve Tag Listing - Mechanical	
42		NCDOL Boiler Test Report	
43		Kitchen Hood Suppressions System Test Report	
44		Chiller Test and Certification Report	
45		Controls Test and Certification Report	
46		Valve Tag Listing - Plumbing	
47		Certification of Sterilization of Potable Water	
48		Fire Sprinkler Inspection Report	
49		UL Certification for Lightning Protection	
50		Theatrical Lighting Instruction Sign-In Sheet	
51		Transformer Voltage Test Reports	
52		Lightning Rod Resistance Test	
53		Ground Resistance Test	
54		Ground / Neutral Isolation Test	
55		Receptacle Test	
56		Generator Set / ATS instruction Sign-In Sheet	
57		Generator Set Load Test Report	
58		Fire Alarm System Instruction Sign-In Sheet	
59		Fire Alarm Documentation (cert. form, written statement)	
60		Fire Alarm Test Reports	
61		Intercom System Instruction Sign-In Sheet	
62		Intercom System Test Reports	
63		Security Cabling Test Reports	
64		600 Volt Cable Test Reports	
65		CCTV Testing and Training Sign-In Sheet	
66		Security Camera Testing and Training Sign-In Sheet	

Section 01740

Tab #	Spec Section	Title	Warranty Period
		FINAL APPLICATION FOR PAYMENT	
67	00 62 76	Pay Application Cover Sheet	
68		Application for Payment (AIA G702)	
69		Continuation Sheet (AIA G703)	
70		Sales Tax Statement - for Period	
71		MBE Appendix E - for Period	
72		Sales Tax Statement - Total for Project	
73		MBE Appendix E - Total for Project	
74		Payment of Debts (AIA G706)	
75		Release of Liens (AIA G706A)	
76		Consent of Surety (AIA G707)	
		ARCHITECTS LETTERS	
77		Red Lined As-Built Received & Acceptable	
78		Punchlist Completed	
79		Stock Material Delivery Receipt	
80		A/E Certification for NCDENR Water and Sewer	
81		As-Built Survey Received	
82		T & B and Commissioning Items Completed	

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 Summary

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
 - 3. Demonstration and training videotapes.

1.2 Coordination

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.

PART 2 - PRODUCTS

2.1 Instruction Program

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows:
 - 1. Heat generation, including boilers, pumps, and water distribution piping.
 - 2. Refrigeration systems, including chillers, pumps, and distribution piping.
 - 3. HVAC systems, including air-handling equipment, air distribution systems, and terminal equipment and devices.
 - 4. HVAC instrumentation and controls.
 - 5. Electrical service and distribution, including transformers, switchboards, panel boards, and motor controls.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project Record Documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
 - 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.

DEMONSTRATION AND TRAINING

- b. Instructions on stopping.
- c. Shutdown instructions for each type of emergency.
- d. Operating instructions for conditions outside of normal operating limits.
- e. Sequences for electric or electronic systems.
- f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 Preparation

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

DEMONSTRATION AND TRAINING

- C. Provide copies of sign-in sheets for all training sessions.

3.2 Instruction

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Owner will furnish Contractor with names and positions of participants.
- B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner with at least seven days' advance notice.
- C. Demonstration and Training: During instruction, start and demonstrate each piece of equipment, not just each type of equipment, to ensure proper operation and working condition of equipment.
- D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.
- E. Video each training session and provide 3 copies of each video to the owner for their reference and use.

END OF SECTION 01 79 00

PROJECT MANUAL

FOR

Auditorium Renovations CC Spaulding Elementary

Vol. 2

PREPARED BY:
ButePLLC



3.7.24

DIVISION 2

SECTION 024000: DEMOLITION

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions and Supplementary General Conditions contain requirements relevant to the work covered by this section.

1-02: Work Included

a. This section includes the labor, materials, equipment, and related services necessary to remove existing structures and other construction as listed below and as indicated on drawings:

1. Existing seating as indicated on drawings.
2. Existing projection screen as indicated on drawings
3. Existing stage curtain tracks as indicated on drawings
4. Existing floor finishes as indicated on drawings .
5. Existing structural demo at wheelchair lift, as indicated on drawings.
6. Existing handrails as indicated on drawings.
7. Existing door/frames as indicated on drawings.
8. Other conditions as indicated on drawings

1-03: Standards

Except as modified by governing codes and these specifications, comply with all applicable provisions and recommendations of ANSI A10.2, Safety Code for Building Construction.

1-04: Demolition

The work shall be executed in a careful and orderly manner with the least possible disturbance or inconvenience to the surrounding property Owners. Noise and dust shall be kept at the lowest practicable minimum. Dust partitions shall be constructed where necessary to keep dust and debris from entering building. Spread of dust shall be prevented by wetting down materials thoroughly as often as may be necessary. Debris shall be removed promptly from the premises; the location of dumping area and length of haul shall be the Contractor's responsibility. Before starting any work related to existing utilities (electrical, water, fire lines, etc.) Contractor shall notify respective utility company and coordinate schedule of disconnects/demolition. Note, Contractor to perform magnetic cleanup of site upon completion of project.

1-05: Owner will occupy portions of the building immediately below roofing area. Conduct roofing so that Owner's operations are not disrupted. Provide Owner with not less than 72 hours notice of activities that may effect Owner's operations.

- a. Coordinate work activities daily with Owner so Owner can place protective dust and water leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or detection equipment if needed, and evacuate occupants from below work area.
- b. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below effected areas. Verify that occupants from below work area have been evacuated before proceeding with work over impaired deck areas.

1-06: **BURNING OF MATERIALS ON SITE WILL NOT BE PERMITTED.**

END OF SECTION

DIVISION 3

SECTION 033500: Curing, Sealing & Hardening Concrete Floors (Alternate No. 3)

PART 1 GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment, and related services necessary polish concrete floor slabs as called for by the drawings and specified herein.

- a) Single application sealer-hardener for existing concrete floors.
- b) Precautions for avoiding staining concrete before and after application.

1.03 Related Work

A. The following sections may contain information relevant to this section

Section 036500 Concrete Toppings & Underlayment

1.04 System Description

a) Polishing:

1. 50-grit metal bond diamonds are used in a wet process to clean and smooth the concrete.
2. 100-grit metal and 100-grit resin diamonds are used to create a uniform scratch pattern.
3. The concrete is cleaned with Winter Blue cleaner.
4. The concrete is dry polished to the level of gloss ordered by the client using the appropriate 400-grit, 800-grit, 1500-grit and 3000-grit resin bond diamonds. Verify level of polish with Architect.

b) Densifier:

1. A penetrating concrete densifier/ hardener is applied to the floor at 400 sq. ft. per gallon. The densifier is a proprietary blend of silicates and other components in a water based solution. It chemically reacts with calcium hydroxide and calcium carbonate to form strong, durable calcium silicate hydrate (CSH).
2. Densifier is applied prior to 200-resin grind.

1.05 Submittals

- a) Material requirements for concrete to which cure-seal-hardener is to be applied, including cement type, water-cement ratio, type of trowel finish, limitations on admixtures, pigments, bonding agents, and bond breakers, etc.
- b) Product Data: Manufacturer's data sheets, including product specifications, test data, preparation instructions and recommendations, storage and handling requirements and recommendations, and installation methods.
- c) Maintenance instructions, including precautions for avoiding staining after application.
- d) Submit 5 copies of all submittals

1.06 Quality Assurance

- a) Installer Qualifications: Applicator experienced with installation of product and certified by manufacturer, or applicator experienced with similar products and providing manufacturer's field technician of site to advise on application procedures; and providing adequate number of skilled workers trained and familiar with application requirements.

1.07 Delivery, Handling and Storage

- a) Deliver product in factory numbered and sealed drums, with numbers recorded for Owner's records.
- b) Store products in manufacturer's unopened drums until ready for installation.

1.08 Project Conditions

- a) No satisfactory procedures are available to remove petroleum or rust stains from concrete. Prevention is therefore essential. Take precautions to prevent staining of concrete prior to application of cure-seal-hardener and for minimum of three months after application:
 1. Prohibit parking of vehicles including lifts on concrete slab.
 2. If vehicles must be temporarily parked on slab, place drop cloths under vehicles during entire time parked.
 3. If construction equipment must be used for application, diaper all components that might drip oil, hydraulic fluid, or other liquids.
 4. Prohibit pipe cutting using pipe cutting machinery on concrete slab.
 5. Prohibit temporary placement and storage of steel members on concrete slab.
- b) Do not install products under environmental conditions outside manufacturer's absolute limits.
- c) Do not use frozen material; thaw and agitate prior to use.

1.09 Warranty

- a) Provide manufacturer's warranty that a structurally sound concrete surface prepared and treated according to the manufacturer's directions will remain permanently dustproof, hardened and water repellent. If after the specified sealing period the treated surface does not remain dustproof, hardened and water repellent, provide, at manufacturer's expense, sufficient material to reseal defective areas.

PART 2 PRODUCTS

2.01 Materials & Equipment

- a) Materials:
 1. Eagle One Densifier.
 2. Two part Flexible Epoxy Joint Filler.
- b) Equipment: Use the following:
 1. Equipment to be used for grinding/polishing shall possess at least 500 pounds of head pressure.
 2. Diamond grinding segments available shall be: 6 Grit through 220 Grit and as applicable.
 2. Edgers to grind close to walls, columns, doors, etc.
 3. Hand grinders for corners, drains, sloped areas and detail work.
 4. Vacuums to keep dust to a minimum.
- c) Water: Clean, potable.

PART 3 EXECUTION

3.01 Examination

- a) Do not begin installation until substrates have been properly prepared and are suitable for application of product.
- b) If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- c) Confirm concrete has cured for 28 or more days.

3.02 Preparation

- a) Clean surfaces thoroughly prior to installation.
- b) Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- c) Protect adjacent surfaces and walls from the concrete polishing procedure.
- d) If present, remove coatings such as epoxy, adhesives, paint, etc.
- e) Smooth the concrete floor with successively finer grits.
- f) Densify concrete in accordance with manufacturer's instructions.

3.03 Installation

- a) Install to match Architect's sample.
- b) If this is the applicator's first project using this product, provide the manufacturer's technical representative on-site to familiarize installers with proper procedures.
- c) Prevent damage to and soiling of adjacent work.
- d) Begin polishing floor with 100-grit diamonds.
- e) Apply densifier prior to 200-resin grind.
- f) Perform final polishing grits.

3.04 Protection

- a) Protect installed floors until chemical reaction process is complete; at least three months.
 - 1. Clean floor regularly in accordance with manufacturer's recommendations.
 - 2. Clean up spills immediately and spot-treat stains with good degreaser or oil emulsifier.
- b) Precautions and cleaning are the responsibility of the General Contractor until Substantial Completion. Replace concrete that becomes stained due to improper precautions or lack of cleaning.

END OF SECTION

SECTION 036500: CONCRETE TOPPINGS & UNDERLAYMENT

PART 1: GENERAL

1.01 Reference To Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes concrete topping slab for use at floor areas to be renovated as listed below and as indicated on drawings. Floor patching at existing concrete floors and where existing seating and finishes are removed shall be patched in accordance with this section.

1.03 Quality Assurance

a) Approval of Manufacturer

Floor topping shall be produced by a manufacturer that has a minimum of 5 years experience in the successful installation of concrete toppings and leveling underlayment products.

1.04 Submittals

Before placement of any topping or patching at this project has begun, product literature shall be submitted to the Architect for approval

1.05 Substitutions

For the purpose of establishing type and quality of materials required for use in this section, manufacturer's names and brand names are used. All manufacturers listed below are approved to bid. Equal products by other approved manufacturers will be considered for use providing that the request for substitution is accompanied by supporting technical literature, samples, drawings and performance data as necessary for comparative evaluation if submitted at least 15 days prior to receipt of bids.

PART 2: PRODUCTS

2.01 Material

a) Concrete self-leveling topping shall be one of the following:

1. Ardex K-15 Self-Leveling Portland Cement based self-leveling topping as manufactured by Ardex Inc., 1155 Stoops Ferry Rd, Coraopolis PA 15108 412.264.4240
2. Ultratop SP Self-Leveling Cement Topping as manufactured by Mapei Corp. 2900 Francis ave. Lael Quebec 450.662.1212
3. Level-X52 Self-Leveling cement based polymer topping as manufactured by Edison Coatings Inc., 3 Northwest Drive, Plainville CT 800.697.8055

b) Underlayment patching at areas to receive carpet:

1. Ardex SD_F Feather Finish as manufactured by Ardex Inc., 1155 Stoops Ferry Rd, Coraopolis PA 15108 412.264.4240
2. Ultraplan M20 Plus Fast Drying Modified Underlayment Cement as manufactured by Mapei Corp. 2900 Francis ave. Lael Quebec 450.662.1212

c) Water: potable

2.02 Finishes

Interior floors to be patched shall receive a smooth level finish suitable to receive finish as specified and listed in the finish schedule. All air pockets and holes over 1/4" in diameter shall be

filled with approved underlayment patching compound compatible with self-leveling topping concrete.

PART 3: EXECUTION

3.01 Installation

Installation of floor patching and leveling materials shall be done by experienced and competent applicators in accordance with approved procedures by manufacturer. Surfaces to receive material shall be dry and free of dust and debris. Materials shall be cured for 16 hours min. after placement or as recommended by the manuf. Before construction traffic is allowed on the surface or finish floor materials are installed.

DIVISION 5

SECTION 054000: Cold Formed Metal Framing

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install metal studs, channels, plates, angles for stud wall assemblies, soffits, fascias, with related accessories and specialties as called for by the drawings and specified herein.

1-03: Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Manufactures approved for use include:

ClarkDietrich.

West Chester, OH

Novus Advanced Manufacturing.

St. Joseph, TN

The Steel Network

Durham, NC

1-04: Shop Drawings

Submit electronic portable document files (pdf) or 6 hardcopies of shop drawings for Architect/Engineer review before fabrication is begun. Submittal to include all accessories necessary for a complete system.

1-05: Examination of Adjacent Work

Framing subcontractor to examine areas to receive metal stud systems. Any deficiencies to be reported to the Architect and Prime Contractor in writing prior to beginning work. Installation of metal stud systems shall constitute acceptance of existing conditions.

PART 2: PRODUCTS

2-01: Interior Partitions/soffits/bulkheads

Studs shall be standard SSMA sections as noted on construction documents. Tracks shall be standard SSMA sections as noted on construction documents. Widths/gages as noted on drawings.

2-02: Fasteners

- a) Studs to tracks – Fasteners shall be equal to USG Type S-12 Pan Head, length not less than 3/8".
- b) Studs to Struct. Steel – Fasteners shall be equal to Teks/4 self-drilling fasteners not less than #10, x lengths to suite field conditions.
- c) All other conditions – Fasteners shall be equal to USG Type S-12 Pan Head, x lengths to suite field conditions for proper thread penetration.
- d) Fasteners shall be capable of withstanding 193 pounds single shear and 200 pounds bearing load without exceeding allowable design stress after installation.

PART 3: EXECUTION

3.01: Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in erection of metal stud system components.

3.02: Installation

Cut components accurately to proper angles to fit tightly against abutting members. Framing members shall be held firmly in place until properly fastened. Track members shall be secured to concrete with

powder-driven fasteners and to structural steel with self tapping screws. Space member typically at 16" o.c.. Locate fasteners 2" from ends and 16" o.c. elsewhere. Locate studs accurately seated squarely in track plumb or aligned securely attached to flanges or webs of both upper and lower tracks. Slices in studs will not be permitted.

3.03: Stud Partition Erection

Locate runners accurately in accordance with Contract Documents. Attach runners and studs to runners as listed above. Attach ceiling runners to metal deck, structural framing or other struct. member as detailed.

3.04: Blocking and Reinforcement

Provide additional studs and supplementary backup blocking as needed at door openings, corners, or as needed to support shelving and accessories to produce a rigid assembly. Headers over openings shall be cut to length sections of runners with web bent at each end and secured to support with min. 2 pan head fasteners.

3.05: Cut-Outs

Effective cross section of studs shall not be damaged by any trade. Sizes of cut-outs in studs shall be carefully sized to permit passage of conduits or other equipment, reinforce studs as required or as directed by A/E.

END OF SECTION

SECTION 055000: METAL FABRICATIONS

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish miscellaneous metal work with related accessories and specialties as called for by the drawings and specified herein.

1-03: Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

1-04: Shop Drawings

Submit vector based electronic shop drawings in pdf format for Architect/Engineer review before fabrication is begun. Drawings shall indicate fabrication, assembly and erection details; sizes of members; fastenings, supports, and anchors; clearances and connections to other materials or to work of other trades.

1-05: Shop Painting

Items of steel and of cast iron which are not noted otherwise shall be cleaned and shop painted as per requirements listed in Section 05100. After shop coat has been applied, members shall be protected against contamination of coating by wind-blown or other foreign materials until paint is dry. Items shall not be handled or loaded for shipment until after paint has dried for at least 24 hours. Material with painted surfaces shall be delivered, stored, and erected in a manner which will require a minimum of field preparation for subsequent painting. Field painting is specified in Section 09900.

PART 2: PRODUCTS

2-01: General Workmanship

Use materials of size and thickness shown or, if not shown, of required size and thickness to produce strength and durability in finished product. Work to dimensions shown on shop drawings using conventional methods of fabrication and support. Use type of materials shown or specified for various components of work. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown.

Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing work. Weld corners and seams continuously, complying with AWS recommendations. Grind exposed welds smooth and flush, to match and blend with adjoining surfaces. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type shown or, if not shown, Phillips flat-head (countersunk) screws or bolts. Provide for anchorage of type shown, coordinated with supporting structure. Fabricate and space anchoring devices as shown and as required to provide adequate support for intended use and in addition observing restrictions shown for attachment to other materials.

2-02: Materials and Components

1) Metal Surfaces, General

For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.

2) Structural steel shapes, bars, and plates; ASTM A36/A36M-91

- 3) Steel pipe: ASTM A53-90b, Type F, standard weight (Schedule 40), black finish unless galvanizing is required under description of individual item.
- 4) Expansion bolts shall have metal shields, expanded sleeves forced against cone-shaped nuts by tightening bolts; fiber or plastic devices will not be acceptable.
- 5) Cast iron shall be gray iron conforming to ASTM A48-90, Class 30 minimum.
- 6) Threaded rod shall be ASTM F1554 Grade 36
- 7) Nuts shall be ASTM A563
- 8) Washers shall be ASTM F844

PART 3: EXECUTION

Items included in this section shall be installed by mechanics skilled and experienced in the erection of architectural and miscellaneous metal fabrications. Finished work shall be plumb or level as conditions require, in proper alignment, and properly secured to supporting members. Exposed surfaces shall be clean and free from defects which might detract from durability or appearance, or which might prevent the satisfactory application of field finishes specified in Section 09900.

END OF SECTION

SECTION 055213: Metal Railing Systems

PART 1: GENERAL

1.01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment and related services necessary to furnish and install steel pipe rail systems with all accessories as necessary for a complete installation as shown on drawings and specified herein.

1.03: Substitutions

For purposes of establishing the type and quality of materials required for work included in this section, manufacturer's names, types, patterns, etc. are used. Equal products of other manufacturers will be considered, provided that requests for substitutions are accompanied by supporting technical literature, samples, and performance data for comparative evaluation 15 days prior to receipt of Bids. Approval will be made by written Addendum.

Approved Manufacturers Include:

Julius Blum & Co., Carlstadt, NJ
R&B Wagner, Milwaukee, WI
Tri Tech Inc., Austell, GA

1.04: Submittals

Submit shop drawings in pdf format to the Designer for approval showing all materials, dimensions, profiles and fastening and connecting systems.

PART 2 - PRODUCTS

2-01: General:

- a) Steel pipe rails shall be provided in shape/dimensions as indicated on drawings, refer to 1-04 above.
- b) Basis of Design Julius Blum & Co. Inc. "Formed Pipe Rail Fitting for Welded Assembly"

2.02: Steel Pipe Rails

Steel pipe rails shall be provided in shape/dimensions as indicated on drawings. No field fabrication will be permitted, except as required for installation. Weld corners and seams continuously, complying with AWS recommendations. Grind exposed welds smooth and flush, to blend with adjoining surfaces. Provide for anchorage of type shown, coordinated with supporting structure. Fabricate and space anchorage devices as shown and as required to provide adequate support for intended use.

2.03: Materials and Components:

- a) All metal railing work exposed to view to contain only materials which are smooth and free of blemishes including pitting, seam marks, roller marks, roller trade names and roughness. Pipe to be I.P.S. Schedule 40 unless otherwise listed.
- b) Misc. steel shapes, bars, plates: ASTM C36
- c) Fittings shall be fabricated from same materials as posts and rails. Tees and elbows fabricated from more than one piece shall be welded construction with no visible weld marks, precisely machined and free from burrs or surface defects.

PART 3 - EXECUTION

3-01: Fabrication and Installation

All work shall be fabricated and installed by mechanics skilled in business of custom metal railing construction. Assembly of components shall be performed in accordance with manufacturer's recommendations, approved shop drawings and these specifications. Rails shall be installed to withstand 200 lbs concentrated load vertically and horizontally at top rail and resist 50 lbs per linear foot applied in any direction, or as required by NC Code.

3-02: Installed units shall be free of defects, dents, bends, scratches, misalignment, burrs, and unmachined welded joints or seams. Finished work shall be cleaned and polished and ready to receive final coats of painting.

END OF SECTION

DIVISION 6

SECTION 060100: ROUGH CARPENTRY

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install grounds, nailers, bracing, blocking, sheathing, etc. It also includes provision of temporary closures for doors and glazed openings as required for protection from weather and maintenance of proper temperature and humidity; and nails, screws, bolts, nuts, washers, and other fastening devices necessary for assembly and attachment of wood to wood, or wood to other materials, required to achieve results and effects specified and detailed. Pressure treatment to prevent decay, specified in Section 0630300, is required of all lumber in contact with masonry or concrete, sills within 18 inches of grade, roof and curb blocking and other locations subject to moisture contact.

1-03: Quality Control

Each piece of lumber shall comply with American Softwood Lumber Standard PS 20-70 and with specific grading requirements of Southern Pine Inspection Bureau. Each piece of lumber shall be identified as to grade species by grade mark of recognized agency or organization certified by Board of Review, American Lumber Standards Committee, Washington, D.C.

1-04: Substitutions

For purposes of establishing type and quality of materials used in this section, manufacturers names and brand names are used. Equal products of other manufacturers may be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings and performance data for comparative evaluation 10 days prior to receipt of Bids. Manufacturers approved for use include the following:

- Georgia-Pacific Corp., (800) 243-8160.
- Koppers Company, Inc., Pittsburgh PA, (800) 556-7737.
- Weyerhaeuser Co., Tacoma WA, (206) 924-2345.

PART 2: PRODUCTS

2-01: Framing (minimum grades)

- a) General: All new members to match thickness, profile of adjacent existing material.
- b) Sills, Plates, Caps, Bucks, Blocking - NO. 2
- c) Decking - NO. 2

2.01 Plywood, thickness as indicated on drawings or to match existing, shall bear APA Grademarks conforming with requirements of U.S. Products Standard PSI for Construction and Industrial Plywood.

PART 3: EXECUTION

3-01: General

Rough carpentry items shall be laid out as called for by the drawings, cut and fitted as necessitated by conditions encountered. All work shall be plumbed, leveled, and braced with sufficient nails, spikes, bolts, etc., to ensure rigidity.

3-02: Defective Material

Any piece of wood or other carpentry material defective to prevent it from serving its intended purpose (including but not limited to crooked, warped, bowed, checked, gouged or other defects) within limits of grade specified will be rejected and shall be replaced with an acceptable piece.

3-03: Wood Blocking and Nailers

- 1) Provide wood blocking, stripping, and shimming necessary to maintain lines and to support finishes called for by drawings.
- 2) Secure wood blocking, nailers, grounds, etc., called for by drawings, specified herein, and by job conditions in place with approved types and sizes of nails, ties, bolts, inserts, etc., spaced so as to provide rigid support. All fasteners in contact with treated lumber shall be either hot-dipped galvanized steel or stainless steel.

END OF SECTION

SECTION 062000: FINISH CARPENTRY AND MILLWORK

PART 1: GENERAL

1.01 Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install finish carpentry and millwork with accessories and specialties as shown on drawings and specified herein.

1.03 Delivery and Storage

Do not deliver millwork and interior finish materials until building is dry, store material in areas protected from extreme variations in humidity or temperature, and from staining or physical damage. For a period of 10 days prior to and during placing of interior finish, provide sufficient heat to produce temperature of not less than 68 degrees F. Maintain this temperature until occupancy of facility by Owner.

1.04 Shop drawings

Submit 6 copies minimum of shop drawings for items covered by this section for review by Architect. Do not deliver material to site prior to receipt of approved documents. Millwork contractor shall establish and maintain field dimensions.

1.05 Moisture Content

All finish lumber and trim shall be kiln dried to a maximum moisture content of 12%

1.06 Quality Control

Except where a higher level of quality is specified herein, items covered by this section shall conform generally to the Architectural Woodwork Institute's Quality Standards for Premium Grade Work.

PART 2: PRODUCTS

2.01 Finish molding and trim (See drawings for sizes, species and finish)

- a) Painted Trim – C and Better Douglas Fir
- b) Natural Finish Trim – AWI Premium Grade Molding/Trim – Red Oak
- c) T & G hardwood flooring to match existing

2.02 Plywood (thickness and finish as noted on drawings) shall bear APA Grademarks conforming with requirements of U.S. Products Standard PSI for Construction and Industrial Plywood.

PART 3: EXECUTION

3.01 Finish Carpentry and Millwork

Members shall be accurately cut and fitted. Exterior corners shall be mitered, interior corners coped. Joints shall be made to conceal shrinkage as much as possible.

Set exposed heads of nails, countersink exposed screw heads unless detailed otherwise. Members shall be securely attached to each other and to supports. Surfaces shall be in flat planes, properly aligned with adjacent materials, plumb and square. Millwork shall be sanded as necessary to remove irregularities and machine marks. Work shall be left free of blemishes and defects, ready to receive finishes.

END OF SECTION

SECTION 060300: PRESSURE TREATED LUMBER

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes treatment of material to prevent decay. Requirements for decay preventative treatment apply to all wood in contact with earth, concrete or masonry, at locations subject to moisture, and as noted on drawings.

PART 2: PRODUCTS

2-01: Decay Treatment

Members to be treated with preservative to prevent decay shall be treated with 0.40 pounds per cubic foot minimum net retention of Alkaline Copper Quarternary (ACQ) as produced by Chemical Specialties, Inc. 200 East Woodlawn Road, Suite 350, Charlotte, NC, or other manufacturer producing and equal product. After treatment, members listed shall be treatment grade-marked for ground contact and shall be air seasoned or kiln dried to a maximum moisture content of 19 percent. They shall be stored at job site under a waterproof and weatherproof covering, and shall be coated with same preservative during construction. See section 06100 for fastener requirements.

PART 3: TREATMENT

Members listed shall be treated at an approved processing plant, and shall be identified with type of treatment and processor's name. Materials to be treated shall be cut to finish sizes and shapes in so far as practicable; unavoidable field cuts shall be heavily brush coated with a concentrated solution of the preservative specified. After treatment, members listed shall be air seasoned or kiln dried to a maximum moisture content of 19 percent.

END OF SECTION

DIVISION 7

SECTION 079000: SEALANTS

PART 1: GENERAL

1.01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment and related services necessary to furnish and install caulking and sealants at locations called for by drawings, specified herein.

1.03: Substitutions

For purposes of establishing type and quality of materials required for work included in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation 10 days prior to receipt of Bids.

Approved Manufacturers:

BASF Corporation	Shakopee, MN 800-433-9517
Sika Corp	Lyndhurst, NJ 201-933-8800
Pecora Corp	Harleysville, PA 800-533-6688

1.04: Material Certification

Sealant materials for exterior use shall bear Thiokol Chemical Corporation's "Tested and Approved" label, or, they shall be accompanied by manufacturer's certificate indicating that materials delivered to job site have been tested in compliance with Thiokol Building Trade Performance Specification. Certificate shall be accompanied by a written report from an approved testing laboratory, giving results of required tests.

1.05: Submittals

General Contractor shall submit to Architect copies of product data sheets and manufacturer's installation instructions. If 2 or more different sealants are to be in physical contact with each other, obtain from manufacturer confirmation that its product is compatible with proposed and adjacent products, including any other products which may be used by subcontractors. Primer literature shall be included with submittal documents unless manufacture's sealant submittal specifically eliminates need for primer. Submit 2 copies of manufacturer's standard color charts; upon request, cured samples of each color chosen shall be submitted for verification of actual color to be installed.

1.06: Quality Assurance

Subcontractors shall have minimum 5 years experience installing sealants. Applicator shall be responsible for verifying that sealants used are compatible with joint substrates. The General Contractor may be required to install sealant in mock-ups prepared by other trades in order to demonstrate appearance and workmanship technique. Such mock-ups should be done by those personnel who will be assigned to the project, using materials and techniques which will be used on the project. Joint width/depth ratios shall be in accordance with manufacture's recommendations. Manufacturer of sealant shall have been in business of manufacturing specified types of sealant for not less than 10 years.

1.07: Product Delivery and Storage

Deliver products from manufacturer in original unopened container clearly identifying each product specified relating to product literature submitted.

1.08: Guarantee

Sealant joints shall be guaranteed against adhesive and cohesive failure of sealant and against water penetration through sealed joint for 5 years.

PART 2: PRODUCTS

2.01: Exterior Sealant (35% ± movement range)

One-component, high-performance, non-priming, gun-grade, elastomeric polyurethane sealant, equals in all respects to MasterSeal NP 1 (formerly Sonolastic NP 1) by BASF.

2.02: Performance Requirements: Provide sealant complying with the following requirements:

1. Compliances:
 - a. ASTM C920, Type S, Grade NS, Class 35, Use NT, T, M, A, I and O.
 - b. Federal Specification TT-S-00230C, Type II, Class A.
 - c. Corps of Engineers CRD-C-541, Type II, Class A.
 - d. Canadian Specification CAN/CGSB 19.13.M87, Classification MCG-2-25-A-N, No. 81026.
 - e. CFI accepted.
 - f. Underwriters Laboratories Inc.® classified, fire resistance only.
 - g. ISO 11600-F-25LM.
 - h. STC (Sound Transmission Class) Level of 44 as tested by ASTM E90.
 2. Service Temperature Range: Minus 40 to 180 degrees F (minus 40 to 82 degrees C).
 3. Shrinkage: None.
 4. Movement Capability, ASTM C719: Plus or minus 35 percent.
 5. Tensile Strength, ASTM D412: 350 psi (2.4 MPa).
 6. Tear Strength, ASTM D1004: 50 pli.
 7. Ultimate Elongation at Break, ASTM D412: 800 percent.
 8. Rheological, ASTM C639, sag in vertical displacement, 120 degrees F (49 degrees C): No sag.
 9. Extrudability, ASTM C603, 3 seconds: Passes.
 10. Hardness, ASTM C661, Shore A:
 - a. Standard Conditions: 25 to 30.
 - b. After Heat Aging: 25.
 11. Weight Loss, ASTM C792, after heat aging: 3 percent.
 12. Cracking and Chalking, ASTM C792, after heat aging: None.
 13. Tack-Free Time, ASTM C679: Passes.
 14. Stain and Color Change, ASTM C510: Passes, no visible stain.
 15. Bond Durability, ASTM C719, on glass, aluminum, and concrete: Passes, plus or minus 35 percent movement.
 16. Adhesion in Peel, ASTM C794: 30 pli.
 17. Adhesion in Peel, after UV radiation through glass, ASTM C794: Passes.
 18. Artificial Weathering, ASTM C793, Xenon arc, 250 hours: Passes.
 19. Artificial Weathering, ASTM G26, Xenon arc, 3,000 hours: No surface cracking.
 20. Water Immersion, ASTM C1247, 122 degrees F (50 degrees C): Passes 10 weeks with movement cycling.
 21. Sound Transmission Class, ASTM E90, 44
 22. VOC Content: 37 g/L, less water and exempt solvents.
- B. Design Requirements:
1. Design number of joints and joint widths for maximum of plus or minus 25 percent movement.
 2. Design depth of sealant to be 1/2 width of joint.
 - a. Maximum Depth: 1/2 inch (13 mm).

b. Minimum Depth: 1/4 inch (6 mm).

c. Colors: Selected by Architect from manufacturer's full color range.

2.03: Primer

Primer shall be used in accordance with manufacturer's instructions, with all primers being applied prior to installation of any backer rod or bond breaker tape. Manufacturer shall be consulted for all surfaces not specifically covered in submittal application instructions. If a stain type primer is used, apply material in a manner that will prevent exposed stain residue related to application procedures.

2.04: Backer Rod

Backer Rod material shall be open or closed cell polyethylene or polyurethane as recommended by sealant manufacturer.

2.05: Bond Breaker Tape

An acceptable polyethylene or similar type bond breaker tape shall be used to prevent 3-sided adhesion in locations where backer rod cannot be used.

PART 3: EXECUTION

3.01: Inspection

Substrate surface shall be inspected to ensure that no bond breaker materials contaminate the surface to which sealant is to adhere and to ensure that unsound substrates are repaired. Installation of sealant shall be evidence of acceptance of substrate by Contractor and Subcontractor. Joint dimensions shall be verified prior to installation of sealant to ensure that all dimensions are within tolerance established in manufacturer's literature. Unacceptable variations shall be resolved by Architect and Contractor prior to installing any material. Apply sealant in accordance with manufacturer's instructions. Verify that temperature and moisture conditions are within manufacturer's acceptable limits.

3-02: Joint Preparation

Surfaces shall be clean and dry; free of oil, grease, loose materials, frost, etc. Clean white cloths or lintless paper towels shall be used for cleaning; cloths or towels shall be changed frequently during cleaning operation. Cleaning agents or solvents shall not be allowed to dry without wiping. Joints shall be primed as required in accordance with sealant manufacturer's instructions. Surfaces adjacent to joints being sealed shall be masked with tape prior to priming. Tape shall be removed prior to initial set-up of sealant. Back-up materials shall be installed in accordance with recommendations of sealant manufacturers. Extruded foam back-up material shall be installed with care to avoid puncturing the surface skin, or stretching the material longitudinally. Foam backer rods shall be installed by rolling and compressing the material using blunt instruments into joints to a uniform depth. The material shall be compressed to approximately 67% of its original width (diameter) for closed cell and 50% for open cell and so installed that sealant will be a minimum of 1/4" deep and a maximum of 1/2" deep, unless otherwise required by manufacturer. Joints which are more than 1/4" wide shall have a sealant depth as listed below:

- a) For concrete and masonry:
 - 1) Joint width 1/4"; depth 1/4"
 - 2) Joint width 1/4"; to 1/2"; depth same as width
 - 3) Joint width 1/2" to 1"; depth 1/2"
- b) For metal, glass, other non-porous surfaces:
 - 1) Joint width 1/4"; depth 1/4"
 - 2) Joint width 1/4" to 1/2"; depth 1/4"
 - 3) Joint width 1/2" to 1"; depth 1/2" width

3-03: Weather Conditions

In so far as possible, sealants shall be applied when temperatures are between 40 and 90 degrees F., and when joints are in a normal (not contracted or expanded) condition. At very low temperatures, faster drying solvents and quick drying, non-moisture sensitive primers shall be used. Sealants shall not be applied at times when expected closure of the joint in warm weather will exceed 25 percent. Sealant manufacturer's specific recommendations regarding use of product in cold or hot weather shall be followed together with proper precautions regarding temperatures for storage and mixing.

3-05: Application

Position of back up material shall be checked before application of sealant; required corrections shall be made. Sealant shall be applied with sufficient pressure to insure complete filling of joints. Joints shall be tooled to provide proper joint contour, to eliminate air pockets, and to provide maximum contact at joint interfaces. Tooling equipment may be of metal, wood or plastic. Tooling solutions to facilitate slip shall be clean water or other solutions specifically recommended by sealant manufacturer. Adjacent surfaces which are soiled shall be cleaned as sealant work progresses; excess material shall be removed before it has cured. Upon completion, joints shall be smoothly and neatly finished, and shall be watertight.

END OF SECTION

DIVISION 8

SECTION 081000: Metal Doors & Frames

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install Metal Doors and Frames with related accessories and specialties as called for by the drawings and specified herein, conforming to ANSI A250.8, "SDI 100 Recommended Specifications for Standard Steel Doors and Frames".

1.03 Related Work

A. Work not included: Installation of doors, frames, glass and glazing, field painting, door and frame hardware.

B. The following sections may contain information pertaining to Standard Steel Doors and Frames:

1. Section 087100 – Finish Hardware
2. Section 099000 – Painting

1.04 References

- A. ANSI A250.8 – SDI 100 Recommended Specifications for Standard Steel Doors and Frames.
- B. ANSI A250.10 – Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames
- C. ANSI A250.3 – Test Procedure and Acceptance Criteria for Factory Applied Finish Painted Steel Surfaces for Steel Doors and Frames.
- D. ANSI A250.11 – Recommended Erection Instructions for Steel Frames.
- E. ANSI A115.IG – Installation Guide for Doors and Hardware.
- F. ASTM E-90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- G. ASTM A1008 – Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength Low-Alloy and High Strength with Improved Formability.
- H. ASTM A568 – Standard Specification for Steel, Sheet, Carbon, and High Strength, Low- Alloy, Hot-Rolled and Cold-Rolled, General Requirements.
- I. ASTM A1011 – Standard Specification for Steel, Sheet and Strip, Hot Rolled, Carbon, Structural, High Strength Low-Alloy and High Strength Low-Alloy with Improved Formability.
- J. ASTM A653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc- Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- K. UL 10B – Fire Tests of Door Assemblies.
- L. UL 10C – Positive Pressure Fire Tests of Door Assemblies.

- M. NFPA 252 – Fire Tests of Door Assemblies.
- N. DHI – Installation Guide for Doors and Hardware.
- O. NFPA 80 – Standard for Fire Doors and Fire Windows.

1.05 Quality Assurance

A. All products shall conform to the requirements of ANSI A250.8, "SDI 100 Recommended Specifications for Standard Steel Doors and Frames".

1-06 Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Manufactures approved for use include:
Steelcraft, Cincinnati OH
Republic Doors and Frames, McKenzie TN
Curries Co., Mason City IA

1.07 Submittals

Submit six (6) copies of shop drawings showing elevations and details of each door/frame type, location in bldg, details of construction, primer, hardware locations, detail openings for lites, louvers, and grills. Include installation instructions.

1.08 Delivery, Storage and Handling

- A. Doors and frames shall be delivered palletized and wrapped to provide protection while in transit.
- B. All material shall be stored under cover. The use of non-vented plastic, or canvas shelters shall be avoided to prevent forming of humidity chambers, thus causing rust. In the event that the cardboard wrapping on the doors become wet, the cartons shall be removed immediately. A 1/4" spacing shall be provided between the doors to provide proper air circulation.

PART 2: PRODUCTS

2.01 Materials

A. Cold Rolled Steel: Commercial Steel in accordance with ASTM A1008, "Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength Low-Alloy and High Strength with Improved Formability"; ASTM A568, "Standard Specification for Steel, Sheet, Carbon, and High Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements"; and ASTM A1011, "Standard Specification for Steel, Sheet and Strip, Hot Rolled, Carbon, Structural, High Strength Low-Alloy and High Strength Low- Alloy with Improved Formability".

2.02 Frame Construction

- 1) All frames shall be custom welded units with integral trim sizes and shapes as shown on shop drawings. Knock down frames will not be acceptable.
- 2) All finished work shall be strong and rigid, square, true and free of defects. Moulded members shall be clean cut, straight and uniform throughout length.

- 3) Jamb depths, trim profile and backbends shall be as shown on schedule and approved shop drawings.
- 4) Corner joints shall have all edges closed tight, with trim faces mitered and cont. welded. Use of gussets will not be permitted.
- 5) Min. depth of stops shall be 5/8"
- 6) Frames for multiple or special openings shall have mullions and or rail members fabricated from tubular shapes having no visible seams or joints.
- 7) Hardware reinforcements
 - a) Frames shall fully prepped at the factory according to templates supplied by the hardware supplier. Min. thickness of reinforcing plates is as follows.

Hinge & pivot	7 gage 1 1/4" x 10"
Strike	12 gage
Flush Bolt	12 gage
Closer	12 gage
 - Surface Mounted
 - Hold open arms 12 gage
 - Surface Panic 12 gage
- 8) Min. Frame Gage:
 - a) Exterior openings - Galvanized not less than 14 gage
 - b) Interior openings - 16 gage, frames greater than 48" in width to be 14 gage

8) Floor Anchors

- 1) Securely weld floor anchors inside each jamb for anchorage to floor
- 2) Where scheduled or specified provide adjustable floor anchors min. 2" adjustment
- 3) Min. thickness of floor anchors 14 gage.

9) Jamb Anchors

Frames to be installed in masonry walls or metal framed wall shall be provided with adjustable jamb anchors of the T-Strap type or approved metal stud type not less than 16 gage.

The number of anchors in masonry shall be as follows:

Frames up to 90" high 3 anchors

Frames 90" to 96" high 4 anchors

Frames over 96" 4 plus 1 anchor for each 24" or fraction thereof

The number of anchors in metal stud partitions shall be as follows:

Frames up to 90" high 4 anchors

Frames 90" to 96" high 5 anchors

Frames over 96" 5 plus 1 anchor for each 24" or fraction thereof

- 10) Frames installed in masonry over 48" wide shall have channel or angle stiffener welded into the head, not less than 12 gage.
- 11) Provide all frames with temporary steel spreader.
- 12) Loose glazing stops shall be secured to frames with countersunk cadmium or zinc-plated screws. Secure glazing stops to interior side of frame or locked room side for interior frames.
- 13) After fabrication remove all tool marks and surface imperfections and dress smooth exposed faces and welded joints. Chemically treat frames to insure maximum paint adhesion and coat with rust-inhibitive primer, fully cured before shipment.

2.04 Hardware Locations

Hinges

Top - 9" to 11 ¾" from bottom of frame head to centerline of hinge

Bottom – 10 3/8" to 13" from bottom of frame to centerline of hinge

Intermediate - centered between top and bottom hinges

Locksets	38" from bottom frame to centerline of strike, lever.
Deadlocks	48" from bottom frame to centerline of cylinder
Panic Hardware	38" from bottom frame to centerline of crossbar
Door Pulls	42" from bottom frame to centerline of grip
Push Pull Bars	42" from bottom frame to centerline of grip
Arm Pulls	42" from bottom frame to centerline of lower base
Push Plates	45" from bottom frame to centerline of plate
Roller Catches	38" from bottom frame to centerline

2.05 Finish

A. All doors, frames shall be cleaned, phosphatized, and finished as standard. One coat of a gray, alkyd acrylic enamel primer shall be applied and forced cured. Components must be capable of meeting the acceptance criteria as specified in ANSI A250.10, "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames".

B. Finish painted products shall be painted using a two-coat process, with each coat being force cured after each coating. The finish coat shall be alkyd acrylic enamel applied over the gray, alkyd acrylic enamel primer shall be applied and forced cured. Finish painted components must be capable of meeting the acceptance criteria as specified in ANSI A250.3, "Test Procedure and Acceptance Criteria for Factory Applied Finish Painted Steel Surfaces for Steel Doors and Frames".

PART 3: EXECUTION

3.01 Installation

A. All frames shall be installed plumb, level, rigid and in true alignment as recommended in ANSI A250.11, "Recommended Erection Instructions for Steel Frames" and ANSI A115.IG, "Installation Guide for Doors and Hardware". All frames other than slip-on types shall be fastened to the adjacent structure so as to retain their position and stability. Drywall slip-on frames shall be installed in prepared wall openings, and shall use pressure type and sill anchors to maintain stability.

B. Where grouting is required in masonry installations, frames shall be braced or fastened in such a way that will prevent the pressure of the grout from deforming the frame members. Grout shall be mixed to provide a 4" maximum slump consistency, hand troweled into place. Grout mixed to a thin "pumpable" consistency shall not be used.

C. Doors shall be installed and fastened to maintain alignment with frames to achieve maximum operational effectiveness and appearance. Doors shall be adjusted to maintain perimeter clearances as specified herein. Shimming shall be performed by the installer as needed to assure the proper clearances are achieved.

D. Installation of hardware items shall be in accordance with the hardware manufacturer's recommendations and templates. ANSI A115.IG, "Installation Guide for Doors and Hardware" shall be consulted for other pertinent information.

3.02 Clearances

A. The clearance between the door and frame head and jambs shall be 1/8" in the case of both single

swing and pairs of doors.

B. The clearance between the meeting edges of pairs of doors shall be $3/16'' \pm 1/16''$. For fire rated applications, the clearance between the meeting edges of pairs of doors shall be $1/8'' \pm 1/16''$.

C. The clearance at the bottom shall be $3/4''$.

D. The clearance between the face of the door and door stop shall be $1/16''$ to $1/8''$. E. All clearances shall be, unless otherwise specified, subject to a tolerance of $\pm 1/32''$

END OF SECTION

SECTION 08200: Wood Doors

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install wood doors with related accessories and specialties as called for by the drawings and specified herein. See the following sections for related work:

062000 Finish Carpentry
081000 Steel Doors and Frames
087000 Finish Hardware
099000 Painting

1-03: Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Manufactures approved for use include:

Algoma Hardwoods Inc Algoma WI
Weyerhaeuser Inc Jackson MS
VT Industries Holstein IA

1-04: Submittals

Submit six (6) copies of product data scheduled to show door elevations, construction, swing, label, undercut and hardware. Show dimensions and detail openings for lites, louvers, and grills. Submit 2 sets of actual veneer samples for color selection demonstrating standard factory finishes. Include installation instructions.

1-05: Delivery

No door shall be delivered to the building until weatherproof storage space is available. Tore doors in area having controlled temperature and humidity range 30-60%. Stack doors flat off floor supported to prevent warping. Protect doors from damage and direct sunlight. Wrap factory finished doors in individual poly bags. Damaged doors to be replaced at no cost to Owner.

1-06: Quality Assurance

1) Doors shall conform to:

AWI Sections 1300 & 1500

NWWDA IS-1 Series

NEMA

NFPA

2) All doors shall be by the same manufacturer.

3) Labeled doors shall be, 90 minute, 60 minute, 45 minute, or 20 minute as listed on drawings. Provide permanently attached label on hinge stile show rating and testing agency approval. (Underwriters Laboratories or Warnock Hersey)

4) Non labeled doors shall meet construction requirements of 20 minute doors as listed by Underwriters Laboratories or Warnock Hersey.

5) One door may be randomly selected by Architect for destructive testing to determine if manufacturer has complied with specifications.

1-07: Moisture Control

Wood used in door construction shall be seasoned, kiln dried with moisture content between 5% & 8%.

1-08: Warranty

All work in this section shall be warranted from date of certification of compliance against defects in workmanship including but not limited to the following. Replacement shall include hanging and installation including hardware. Warranty Period 5 years

- 1) Delamination
- 2) Warp or twist >1/4"
- 3) Telegraphing of any part of the core causing surface variation.
- 4) Any defect that impairs performance of the door for the purpose for which it was intended.

PART 2: PRODUCTS

2-01: General

Doors shall be of sizes, types and thicknesses as listed in schedule and shown on drawings. Door manuf. shall coordinate hardware, doors, louvers and glazing with door, frame and finish hardware schedules. Verify proper clearance with thresholds and transitions.

2-02: Wood Doors shall be Premium Grade Natural Rotary Cut Red Oak veneer faced Architectural units. Basis of Design: "Aspiro Series" as manufactured by Algoma Hardwoods. Doors shall be composed of particle board core with stiles and rails bonded to core under pressure with high frequency method of cure and veneered with hardwood plies.

- 1) Thickness: 1 3/4"
- 2) Max size: 4'-0" x 8'-0"
- 3) Core: solid particle bd density 30-32 pcf FSC Certified conforming to ANSI A208.1 Provide core reinforcement for surface mounted closers and exit devices.
- 4) Stiles: 1 3/8" min. 2 ply edge strips glued to core, outer 5/8" ply species compatible with face veneer. Lamination to conform to AWI 1300 G-3 Spec symbol PC5, PC7 or PC HPL.
- 5) Rails: 1 3/8" min. 2 ply mill option hardwoods.
- 6) Adhesives: Water based Type 1.
- 7) Face veneers: Conform to AWI 200-S-7 or ANSI/HPMA HP 1983 Table 2, faces must have min. 0.020" thickness prior to sanding.

2-03: Cutouts

Edge of any opening shall be no closer than 5" to top of door and 8" to bottom of door. Where kickplates occur, edge of cutout shall be 2" above kickplate. There shall be not less than 5" between any light/louver cutout and any hardware or lock cutout. See door schedule for dimensions.

2-04: Prefinishing

Doors shall have factory finished faces. Stiles and rails shall be sealed. Finish shall be equal to catalyzed conversion varnish equal to AWI Section 1500 System 3 Premium Grade.

2-05: Premachining

Doors shall be sized and matched at factory to receive all hardware other than surface mounted items. After hanging maximum clearance shall be 1/8" each side and top. Bottom clearance for labeled doors shall be 1/4" over non-combustible sill or 1/2" non-combustible floor. Doors shall be factory prepped to receive hardware.

PART 3: EXECUTION

3.01: General

Installation of doors shall be in compliance with manufacturer's recommendations, and coordinated with installation of finished hardware. Surfaces shall be protected against damage until project is accepted.

3.02: Install hardware as shown in schedule in full compliance with manufacturer's recommendations. Install with full-threaded screws supplied by hardware manufacturer. Securely anchor hardware in correct position and alignment. Adjust hardware and door for proper function and smooth operation, proper latching without force or excessive clearance.

3.03: Rated doors to be installed in conformance with requirements of labeling agency and NFPA #80 and #101

END OF SECTION

SECTION 087100 FINISH HARDWARE
PART 1: GENERAL

1.01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install finish hardware with related accessories and specialties as indicated on drawings and specified herein.

1.03: Allowance for Hardware

The Contractor shall include in his price the following sum to cover the cost of purchasing finish hardware. Installation of finish hardware to be included in Contractors Base Bid price separate from the amount below

Finish hardware Allowance: \$5000

1.04: Hardware Schedule

General Contractor shall submit 6 copies of complete hardware schedule for review before hardware is ordered. Upon receipt of approval from Contractor, Supplier shall box each item of hardware separately, each box shall be labeled to denote contents and position within building.

1.05: Keying

Supplier will coordinate keying schedule with Owners representative. Supplier to furnish Architect and Contractor with schedule of groups which are to be keyed alike. He will also coordinate number of keys per lock, master keys per group and grand masters with Owners representative. For bidding purposes, all interior locks shall be supplied with 3 keys, exterior doors shall be supplied with 12 keys, Owner shall be supplied with 6 master keys. Cylinders shall be by Best Lock Corp, as required by Owner. Verify core system standards with Owner's representative.

1.06 Substitutions

In order to establish type and quality of materials required for work covered by this section, manufacturer's names and brands are listed. Products of manufacturers other than those named equal in quality and in suitability for the usage intended, will be acceptable provided that requests for substitutions shall be accompanied by supporting technical literature, samples, and performance data for comparative evaluation 15 days prior to receipt of Bids. Manufacturers approved for use include:

Thresholds, weatherstripping	Reese Enterprises, Rosemount, MN Pemko, Ventura CA National Guard Products, Memphis, TN
Hinges	Stanley New Britian, CN Hager Companies, St Louis, MO McKinney, Stranto, PA
Mortise Locksets	Sargent, New Haven, CN Best Lock Corp, Indianapolis, IN Yale, Charlotte, NC
Cylinders	Best Lock Corp, Indianapolis, IN Yale, Charlotte, NC Corbin/Russwin, Charlotte, NC

Exit Devices, removable mullions	Von Duprin, Indianapolis, IN Yale, Charlotte, NC Dorma Door Controls, Reamstown, PA
Closer	LCN Princeton, IL Yale, Charlotte, NC Dorma Door Controls, Reamstown, PA
Thresholds	Reese Enterprises, Rosemont MN Pemko, Ventura CA National Guard Products, Memphis TN
Kick Plates	Trimco, Los Angeles CA Hager Companies, St Louis, MO Don-jo MFG Inc. Sterling MA

PART 2: PRODUCTS

2-01: General

GC shall coordinate the proper exchange of schedules and templates between all suppliers. All locks shall be keyed to the Best Lock System. All hardware for smoke or fire doors shall be "UL" rated.

2.02: Products shall be equal to the following:

Hinges	Stanley "FBB199" US32D Hager "BB1199" SS w/ SS pin McKinney "MPB68" SS w/ SS pin
Mortise Locksets	Sargent 8200 Series Best Lock 40H Series Yale 8700 Series
Overhead Stops & Holders	Sargent 590 Series US26D Dorma 900 series US26D Glenn-Johnson 90 series
Thresholds, weatherstripping	Reese S205 Series Pemko 171 Series National Guard Products 425E Series
Exit Device	Von Duprin 99L Series Yale 7000 Series Dorma 9000 Series
Closer	LCN 4040 Series Yale 4400 Series Dorma 8900 Series
Weatherstripping	Reese 712A, 797B, 129CP Pemko 315CN, 588BL, 29310CP National Guard Products 200NA, 5050, 140PA
Kick Plates	Trimco K0050 32D Hager 193S 32D Don-jo 90 Series 32D

2.03: Hardware Sets

Required hardware for this project shall be as follows:

HW Set 1	6 Hinges
	1 Exit Device
	1 Set Flush Bolts
	1 Smoke Seal
	1 Closer

PART 3: EXECUTION

Installation of hardware is specified in Section 081000.

END OF SECTION

DIVISION 9

SECTION 092000 LATH & PLASTER
PART 1: GENERAL

1.01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install interior plaster repair work with related accessories and specialties as indicated on drawings and specified herein.

1.03: Inspection Before Installation

Areas to be repaired shall be examined by the contractor before beginning work to determine if they are in proper condition to receive plaster repairs. Defects shall be corrected. Installation of plaster repairs shall constitute acceptance of substrate material by Subcontractor.

1.04: Delivery, Storage and Protection

Materials shall be delivered in original packages, containers, or bundles bearing name of manufacture. All materials shall be kept dry at all times. Damaged materials will not be accepted.

1.05 Substitutions

In order to establish type and quality of materials required for work covered by this section, manufacturer's names and brands are listed. Unless otherwise noted, all products names/numbers in this section refer to United States Gypsum Co. products. Products of manufacturers other than those named equal in quality and in suitability for the usage intended, will be acceptable provided that requests for substitutions shall be accompanied by supporting technical literature, samples, and performance data for comparative evaluation 15 days prior to receipt of Bids. Manufacturers approved for use include:

United States Gypsum Co.
National Gypsum Co.
Georgia Pacific

PART 2: PRODUCTS

2.01: General

Basis of design is United States Gypsum Co. Comparable approved systems as listed above will be acceptable.

2.02: Mixing Materials

- a) Water shall potable and free of mineral and organic substances which might effect the setting or ultimate strength of plaster.
- b) Aggregate shall be clean, sharp plaster sand meeting ASTM C35. Sand for float finishes shall be graded silica sand passing a 30 mesh screen.

2.03: Interior Plaster

- a) Basecoat Plaster shall be equal to "USG Structo-Base" gypsum plaster and shall comply with ASTM C28, latest edition.
- b) Gauging Plaster shall be equal to "USG Structo-Gauge" plaster and shall comply with ASTM C28, latest edition.
- c) Finishing Lime shall be equal to "USG Ivory or Snowdrift" and shall comply with ASTM C206, latest edition.

2.04: Metal Lath

a) Interior Lath shall be equal to USG "Diamond Mesh", galvanized, self furring type weighing not less than 3.4lb/sq. yd

2.05: Cold rolled channels and hangers

- a) Runners and supports, 16 gage 1 1/2" channels with 17/32" flange. Lengths as long as practicable.
- b) Secondary Furring Channels , 16 gage 3/4" channels with 1/2" flange
- c) Channel clips, Galvanized 1 1/2" wire

2.06: Accessories: Accessories shall be shape, size and ground depth indicated, made from zinc alloy unless otherwise noted. Flanges shall expanded or perforated for attachment.

- a) Casing Bead - 7/8" USG #66 square edge short flange, galvanized
- b) Corner Bead - USG #1-A expanded corner bead, galvanized
- c) Control joint - USG #100 1" exterior, USG #75 3/4" interior

PART 3: EXECUTION

3.01: General:

- a) Work specified in this section shall be performed by mechanics skilled in erection and finishing of lath and plaster.
- b) Lath over steel or wood studs shall be attached with self-firing fasteners. Accessories shall be installed where shown or as required for edge or corner protection. Lengths shall be as long as practicable. Attachment to supports shall not exceed 8". Members shall be plumb, square and in proper relation to adjacent construction.

3.02: Plaster thickness to match existing or at new interior plaster shall be 3/4" thick including lath from face of substrate.

3.03: Plaster to be installed in complete accordance with manufacturers instructions including protection from rapid drying as required.

3.04: Adjacent work and materials shall be protected during application of coatings with suitable coverings. Splatters and spills on adjacent surfaces shall be removed with materials as recommended by the manufacturer.

END OF SECTION

SECTION 092500 GYPSUM WALLBOARD
PART 1: GENERAL

1.01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install gypsum wallboard for interior finish with related accessories and specialties as indicated on drawings and specified herein.

1.03: Related Sections:

Section 054000 Metal studs

1.04 Examination of Adjacent Work

Areas in which drywall systems are to be installed shall be examined by Subcontractor, defects which should be corrected before installation of drywall shall be reported to the General Contractor and Architect. Drywall shall not be installed until work of other trades is in compliance with applicable requirements of Appendix A ANSI Standard A97.1. Installation of drywall shall constitute acceptance of substrate material by Subcontractor.

1.05: Delivery, Storage and Protection

Materials shall be delivered in original packages, containers, or bundles bearing name of manufacturer and fire rating. All materials shall be kept dry at all times. Wallboard shall be stacked flat with car taken to prevent sagging or damage to edges, ends or surfaces. Damaged materials will not be accepted.

1.06 Substitutions

In order to establish type and quality of materials required for work covered by this section, manufacturer's names and brands are listed. Unless otherwise noted, all products names/numbers in this section refer to United States Gypsum Co. products. Products of manufacturers other than those named equal in quality and in suitability for the usage intended, will be acceptable provided that requests for substitutions shall be accompanied by supporting technical literature, samples, and performance data for comparative evaluation 15 days prior to receipt of Bids. Manufacturers approved for use include:

United States Gypsum Co.
National Gypsum Co.
Georgia Pacific

PART 2: PRODUCTS

2.01: Gypsum Wallboard

All fire resistant wallboard shall comply with requirements of ASTM C36 and bear UL classification marking and shall be 48" wide and of greatest practicable lengths. Thickness shall be 5/8" throughout.

- a) Wallboard for interior partitions shall be equal to USG "Sheetrock Sheetrock Brand Firecode C" Gypsum panels, fire rated, and meet UL classification where indicated.

2.02: Trim Accessories

- a) Corner reinforcement: USG "Dur-a-bead" No. 103
- b) Metal trim: Interior – USG No. 200A, Exterior – USG No. 402 metal
- c) Control joints: USG No. 93 interior and exterior where applicable

2.03: Fasteners

- a) Wallboard to steel framing: 1" and 1 5/8" Type S Buglehead
- b) Wood trim over wallboard to steel framing: 1 5/8" Type S or S12 Trim Head

- c) Wallboard to wood framing: 1 ¼" Type W Buglehead
- d) Gypsum sheathing to steel studs: 1" and 1 5/8" Type S-12

2.04 Joint Treatment- Interior

- a) Wallboard: USG Perf-a-tape or as required by manufacturer for moisture resistant panels
- b) Cement Board: Durock Type P tape
- c) Joint Compounds:

First coat(embedding tape, over beads, spotting fasteners)
USG Compound Taping. At cement board use base coat for thin-set application
see section 09300.

Second coat (filling over tape, beads, and fasteners) USG Ready-Mixed
Compound Topping

Third coat (finishing over tape, beads, and fasteners) USG Ready-Mixed
Compound Topping

PART 3: EXECUTION

3.01: General:

Work specified in this section shall be performed by mechanics skilled in erection and finishing drywall.

3.02: Installation of Interior Gypsum Board

Panels shall be installed face out with long dimension perpendicular to furring channels or if vertical with edges over furring channels or studs. Edges and ends shall be fitted closely but not forced together. Maximum practicable lengths shall be used. Joints shall be staggered at opposite sides of partitions. Cutouts shall be neatly made at outlets, switch boxes, etc.. Screws shall be 1" long spaced 8" o.c. along edges and 12" o.c. along ends, and 12" o.c. at intermediate framing. Distance of screws from edges or ends of panels shall not be less than 3/8". Dimple shall not be over 1/32" deep, face paper shall not be broken.

3.03: Tapping and Finishing

Apply a thin uniform layer of compound to joints and angles to be reinforced. Immediately apply tape center over joints and seat into compound. Provide sufficient compound under tape approx. 1/64" to 1/32" for proper bond. Apply skim coat immediately following tape embedment. Fold tape and embed in angles to provide true angle. Allow to harden prior to application of fill coat. Apply compound over taping skim coat. Fill board, taper flush with surface. On non-tapered joints apply compound over tape and feather out at least 4" on either side. Do not apply filling coat to interior angles. Apply compound evenly over and extending slightly beyond filling coat on all joints. Feather to a smooth uniform surface. Over tapered edges, finished joint shall not protrude beyond plane of surface. Apply compound at tape edges to provide true angle. Fastener depressions shall have a minimum of three coats of compound, each coat shall be allowed to dry or harden before the next coat is applied. Each coat shall be feathered out from ground to plane of adjacent surface, each slightly beyond preceding coat. Sand compound to provide flat, smooth surface acceptable for application of finish specified.

END OF SECTION

SECTION 095000: Acoustical Treatment

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install suspended acoustical with related accessories and specialties as called for by the drawings and specified herein.

1-03: Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Manufactures approved for use include:

Armstrong
Celotex Corp
USG Interiors

1-04: Coordination

Work in this section shall be coordinated with work of mechanical and electrical trades for ceiling/wall fixtures, switches, receptacles, etc. and installation of drywall ceilings.

1-05: Samples

Submit as a min.

- a) 12"x12" of each acoustical material
- b) Runners and cross tees 12" long
- c) Wall angle 12" long

1-06: Standards

Acoustical treatment shall be installed under conditions outlined in the Acoustical and Insulating Materials Association's Bulletin under "job conditions".

1-07: Quality Standards

Acoustical subcontractor shall examine building prior to beginning work to determine if the space is ready to receive installation. Report improper conditions to Prime Contractor and A/E in writing. Installing material shall constitute acceptance of conditions.

PART 2: PRODUCTS

2-01: Suspended Acoustical Ceiling

a) System shall be hung by exposed grid from structure by means of galv. Wire not less than 12 gage. Framing shall be of electro-galvanized steel with baked on polyester paint finish. Color to be selected from manufacture's standards. Matching moldings shall be provided. Framing shall comply with ASTM C635 requirements for Intermediate Duty Systems System to be equal to Armstrong Prelude XL Fire Guard.

b) Basis of design:

Armstrong No. 3150 "Optima"
24" x 24" x 3/4" square cut panels for exposed grid system

Light reflectance	0.88
NRC	0.90
Class A	
24" x 24" x 3/4"	

PART 3: EXECUTION

3.01: Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in erection of suspended acoustical ceilings and components. Installation shall not begin until the building is enclosed and the mechanical system is operational so that residual moisture from other trades is eliminated.

3.02: Acoustical Ceiling

Ceilings shall be installed in accordance with patterns on ceiling plans. Suspension system shall be installed in accordance with ASTM C636 "Recommended Practice for Installation of Metal Ceiling Suspension System for Acoustical tile and Lay-In Panels" and manufacturer's recommendations. Acoustical panels shall be installed in accordance with recommendations of Acoustical and Insulating Materials Association, contained in AIMA bulletin. Units shall be of greatest possible size. Members shall be aligned and level to provide true straight lines.

3.03: Before installation is accepted by Owner, ceiling units or panels which have been improperly installed or damaged will be replaced. Discolored or soiled panels shall be replaced.

END OF SECTION

SECTION 096500: Resilient Flooring & Base

PART 1: GENERAL

1.01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install resilient base with related accessories and specialties as called for by the drawings and specified herein.

1.03: Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Manufactures approved for use include:

Armstrong
Azrock Industries, Inc.
Mannington Commercial
Tarket

1.04: Inspection of Surfaces

Surfaces to be finished under this section shall be examined before work is begun by Flooring Subcontractor to determine if they are in condition to receive finish specified. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper substrate conditions have been obtained. Application of flooring or other coating to any surface shall constitute acceptance of substrate conditions for that surface and responsibility for finished product.

1.05: Submit samples of flooring materials for Architect's approval of patterns and colors. Submit layout of patterned flooring showing sizes, edge conditions and transitions to non-patterned areas.

1.06: Storage and Materials:

Materials shall be packed, stored and handled carefully to prevent damage. Temperatures shall be maintained at 70F min. for 48 hours before during and one week after installation. A min. 55F shall be maintained thereafter.

1.07: Warranty:

Submit a written warranty executed by the manufacturer, agreeing to repair or replace resilient flooring that fails within the warranty period. Warranty Period: 5 years

PART 2: PRODUCTS

2.01 Resilient Base

Basis of design to be standard 4" high Armstrong Coved rubber base Provide manuf. outside corners at all locations. Color to be selected from manufacturers standards.

2.02: Accessories

- A. Provide leveling compound equal to Armstrong S-466 Patch Strong™ patching and smoothing compound with S-464 Prime Strong™ acrylic primer.
- B. Provide transition/reducing strips tapered to meet abutting materials.

PART 3: EXECUTION

3.01: Compliance

Comply with manufacturer's product data, including technical bulletins, product catalog, installation instructions, and product carton instructions for installation and maintenance procedures as needed

3.02: Examination

- A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions (i.e. moisture tests, bond test, pH test, etc.).
- B. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other contaminants that might prevent bond.
- C. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- D. Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

3.03: Preparation

- A. Mechanically remove friable substrate materials and repair areas to smooth finish using repair compound and methods in accordance with manufacturer's instructions.
- B. Mitigate moisture using residual moisture suppressor and methods in accordance with manufacturer's instructions.
- C. Prime substrate in accordance with the with manufacturer's instructions.
- D. Install perimeter foam tape to permanent vertical structures to avoid contact.

3.04: Cleaning

- A. Immediately clean tools in water.
 - 1. Leave work area clean at end of each day.
- B. Upon completion, remove surplus materials, trash, tools and equipment.
- C. Collect recyclable waste and dispose of at appropriate recycling facilities.

3.06: Protection

- A. Protect applied cement underlayment from damage during construction.
 - 1. Place temporary wood panels over finished cement underlayment work as directed by Architect or General Contractor.
- B. Repair or replace adjacent materials damaged by application of cement underlayment.
- C. Protect flooring from traffic until project is accepted by Owner.

END OF SECTION

SECTION 096826 CARPET TILE

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install carpet tile and base with related accessories and specialties as called for by the drawings and specified herein.

1-03: Related Work

096500 Resilient Flooring & Base

1-03: Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Approved manufacturers:

Patcraft,
Shaw
J&J Flooring

1-04: Inspection of Surfaces

Surfaces to be finished under this section shall be examined before work is begun by Flooring Subcontractor to determine if they are in condition to receive finish specified. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper substrate conditions have been obtained. Application of flooring or other coating to any surface shall constitute acceptance of substrate conditions for that surface and responsibility for finished product.

1-05: Submit samples of flooring materials for Architect's approval of patterns and colors. Submit layout of patterned flooring showing sizes, edge conditions and transitions to non-patterned areas.

1-06: Storage and Materials:

Store rolls on a flat surface, away from vents and direct sunlight. Store in protected dry conditions between 65 and 85 degrees.

PART 2: PRODUCTS

2-01: Carpet

Basis of Design: Patcraft "Infinite Wisdom 10291" with properties as follows:

- | | | |
|----|-------------------|--------------------------|
| a. | Manufacturer: | Patcraft |
| b. | Product: | Infinite Wisdom 10291 |
| c. | Construction: | Multi-Level Pattern Loop |
| d. | Fiber: | eco solution q® nylon |
| e. | Dye Method: | 100% solution dyed |
| f. | Primary Backing: | Non-woven synthetic |
| g. | Secondary Backing | Ecworx Tile |

- h. Stain Treatment: SSP® Shaw Soil Protection
- i. Size: 24" x 24"
- j. Gauge: 1/112 inch
- k. Stitches: 10 per in
- l. Finished Pile Thickness: 0.095 inches
- m. Average Density: 6442 oz/yd³
- n. Total Thickness: 0.24 in
- o. Tufted Weight: 17 oz/yd²

2-02: Testing Requirements:

- a. Pill Test CPSC FF 1 70: Pass
- b. Radiant Panel ASTM E648: Class I
- c. NBS smoke ASTM E662 NF: <450
- d. Static AATCC 134: <3.5 kv

2-03: Installation Materials:

- a. Adhesives: Lockworx + Carpet Tile adhesive
- b. Leveling and Patching Compounds: Use only Portland-based patching and leveling compounds. Do not install resilient flooring over gypsum-based patching and/or leveling compounds.
- c. Transition Strips

PART 3: EXECUTION

3.01: Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in installation of products specified herein.

3.02: Examination:

- a. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content, pH, smoothness and level.
- b. If dusting or powdering exists, seal the floor with a latex primer as required by the manufacturer.

3.02: Preparation:

- a. Substrates shall be smooth, structurally sound, permanently dry, clean and free of all foreign material such as dust, wax, solvents, paint, grease, oils, old adhesive residue, curing and hardening/ curing compounds, sealers and other foreign material that might prevent adhesive bond.
- b. Pre-existing adhesive ridges must be reduced to a smooth, level, well-bonded residue. If you are unsure of the type of preexisting adhesive or active cutback adhesive, use an encapsulation product as required by the manufacturer.

- c. For multi-purpose adhesive, after reduction of ridges, thoroughly sweep and vacuum any remaining debris.
- d. For pressure sensitive adhesive, after reduction of ridges, eliminate the adhesive tack with a product as required by the manufacturer.
- e. Do not use adhesive removers; they affect the bond and the new adhesive being applied.

3.03: Installation to be in complete accordance with the manufacturers written instructions.

3.04: Cleaning and Protection

- a. Leave work area clean at end of each day.
- b. Upon completion, remove surplus materials, trash, tools and equipment.
- c. Collect recyclable waste and dispose of at appropriate recycling facilities.
- d. Protect flooring from traffic until project is accepted by Owner

END OF SECTION

SECTION 09 84 33 SOUND ABSORBING WALL PANELS

PART 1: GENERAL

1.01 Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install Sound-absorbing wall panels, custom-fabricated and fabric-finished with related accessories and specialties as called for by the drawings and specified herein.

See the following sections for related work:

062000 Finish Carpentry

092500 Gypsum Bd

099000 Painting

1.03 References

A. ASTM International:

1. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
3. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

1.04 System Description

A. Performance Requirements:

1. Surface Burning Characteristics (ASTM E84):
 - a. Flamespread: 25 maximum.
 - b. Smoke Developed: 450 maximum.
 - c. Fire ratings for all fabric covered panels is based on testing of the panel wrapped with the standard in stock fabric, Guilford of Maine, FR 701 Style 2100.

1.05 Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Approved Manufacturers:

Kinetic Noise Control Inc. Dublin, OH

G&S Acoustics St.Louis, MO

Conwed Maumee, OH

1-06 Inspection of Surfaces

A. Area of the work shall be examined before work is begun by installer to determine if conditions are acceptable to receive installation. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper conditions have been obtained.

B. Do not install panels until wet work, such as concrete and plastering, is complete; the building is enclosed; and the temperature and relative humidity are stabilized at 60 - 80 degrees F and 35% MINIMUM RH and 55% MAXIMUM RH, respectively. All products constructed with wood or wood fiber content must be stored for at least 72 hours in the controlled environment specified herein prior to installation to allow the materials to stabilize.

C. Beginning installation shall constitute acceptance of conditions by the installer.

1.07 Submittals

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

1. Product Data: Submit product data sheet, for specified products.

B. Shop Drawings: Submit shop drawings showing layout, edge profiles and panel components, including anchorage, accessories, finish colors and textures.

C. Samples: Submit selection and verification samples of finishes, colors and textures.

D. Test Reports: Certified test reports showing compliance with specified performance requirements.

2. Standard Systems: Submit certified copies of previous test reports substantiating performance of system in lieu of retesting.

1.08 Quality Assurance

a) Installer shall be qualified to install specified products by prior experience and approved by Manufacturer

b) Single Source Requirement: All materials specified herein shall be from the same manufacturer for the entire project.

1.09 Delivery Storage and Handling

A. General: Comply with Division 1 Product Requirements Section.

B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.10 Warranty

a) Manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.

b) Warranty Period: One (1) years from date of Substantial Completion

PART 2: PRODUCTS

2.01 Manufacturer:

a) Basis of design is Kinetics Noise Control, Inc. Dublin, OH

2.02 Wall Panels:

A. Type A Units Kinetics Noise Control, Inc. "HardSide Panels"

1. Thickness: 4 inches (102 mm)
Size: As indicated on the drawings up to a maximum 48 inches (1219 mm) x 120 inches (3048 mm) panel.
2. Core: 4 inches (102 mm) thick fiberglass, 6 - 7 pcf (96 - 112 kg/m³) density.
3. Edge Detail: Square hardened with a Class A hardening solution.
4. Facing: 100% polyester fabric, FR 701 Style 2100 by Guilford of Maine
 - a. Color: As selected from panel manufacturer's stocked range of colors
5. Sound Absorption (ASTM C423): Noise Reduction Coefficient as follows:
 - a. 4 inches (102 mm) panel: 1.10, minimum, 125 Hz = 0.65 or greater.
6. Mounting Accessories: Z-clips

B. Type B Units Kinetics Noise Control, Inc. "High Impact HardSide Panels"

1. Thickness: 4 1/8 inches (105 mm).
2. Size: As indicated on the drawings up to a maximum 48 inches (1219 mm) x 120 inches (3048 mm) panel.
3. Core: 4 inches (102 mm) thick fiberglass, 6 - 7 pcf (96 - 112 kg/m³) density, with bonded facing layer of 1/8 inch (3.2 mm) thick impact resistant fiberglass.
4. Edge Detail: Square hardened with a Class A hardening solution.
5. Facing: 100% polyester fabric, FR 701 Style 2100 by Guilford of Maine
 - a. Color: As selected from panel manufacturer's stocked range of colors
6. Sound Absorption (ASTM C423): Noise Reduction Coefficient as follows:
7. Mounting Accessories: Z-clips.

2.03 Fabrication:

- A. General: Treat fabric wrapped panels using heat shrink process to develop fully taut facing.
- B. Wrap panel edges and return facing fabric 1 - 2 inches (25.4 - 51 mm) on back of panel. Secure fabric with adhesive applied to edges and back of panel only.

PART 3: EXECUTION

3.01 Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in installation of products specified herein.

3.02 Installation:

A. Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.03 Examination:

A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

1. Verify that stud spacing is 16 inches (406 mm) o.c., maximum, for panels installed over open studs.
2. Do not install panels until unsatisfactory conditions are corrected.

3.04 Cleaning and Protection\

A. Follow manufacturer's instructions for cleaning panels soiled during installation. Replace panels that cannot be cleaned to as new condition.

B. Keep site free from accumulation of waste and debris.

END OF SECTION

SECTION 099000: PAINTING

PART 1: GENERAL

1-01: Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1-02: Work Included

This section includes labor, materials, equipment, and related services necessary to provide and apply paints, sealers, and related materials called for by drawings and specified herein. Refer to paint color schedule in this section. In general, exposed surfaces of factory and/or shop primed work, that are delivered to job site without final finish shall be painted under this section. Altered existing work or damaged surfaces that have been repaired shall be painted under this section. Finishes shall match existing adjacent surfaces.

1-03: Samples and Colors

Maximum number of different colors which will be used for interior painting will be six; not more than three different paint colors will be used in any one space. General Contractor shall obtain color selections from Architect for all types of work and shall prepare samples of each type and color for approval. samples shall be applied to surfaces which represent surface to be painted; they shall have required number of coats and be treated and finished in same manner as completed work.

1-04: Storage and Protection

Materials to be used on project shall be stored in an area approved by Paint Suppliers and Architect. Storage spaces shall be protected against damage from spilled or carelessly handled materials, and shall be safeguarded against fires. Used rags shall be kept in closed metal containers; paints and other liquids shall be kept covered.

1-05: Environmental Conditions

No exterior painting shall be done during freezing weather or when the weather is foggy, damp, or rainy. Surfaces to be painted shall be thoroughly dry and clean of any oils or material which will prohibit proper bonding of paint. Exterior painting shall be done at temperatures recommended by manufacturer for air, humidity and surface to receive paint.

Failure to comply with these recommendations shall be cause for rejection of work or re-painting. For interior work, temperature of spaces in which painting is being done, or where paint and finish are drying, shall be maintained above 60 degrees F.

1-06: Inspection of Surfaces

Surfaces to be finished under this section shall be examined before work is begun by Painting Subcontractor to determine if they are in condition to receive finish specified. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper substrate conditions have been obtained. Application of paint or other coating to any surface shall constitute acceptance of substrate conditions for that surface and responsibility for finished product.

1-07: Approval of Coating Applications

Contractor shall report to Architect prior to application of each coat on each surface painted or otherwise finished. After coat has been applied, it shall be inspected and approved by Architect before application of succeeding coat; failure to comply with this provision may result in Contractor's being required to recoat any areas not so reported and approved; no additional compensation will be allowed for such recoating work.

PART 2: PRODUCTS

2-01: General

a) In order to establish type and quality of materials required for work covered by this section, manufacturer's names and brands are listed in Subsection 2-02, Approved Materials. Products of manufacturers other than those named equal in quality and in suitability for the usage intended, will be acceptable provided that requests for substitutions shall be accompanied by supporting technical literature, samples, and performance data for comparative evaluation 10 days prior to receipt of Bids. Materials for which no brand names are listed, such as thinners, shellac, linseed oil, wood filler, and turpentine, shall be of highest quality and shall have identifying labels on containers. Materials shall be delivered to site in their original containers, seals intact, with labels to include manufacturer's name, product name and number, color code and batch number, undamaged. All finish coats shall constitute a system; i.e., primer shall be compatible with top coat as recommended by paint manufacturer. Wet mil and dry mil thickness range is only a guide for film thicknesses required; actual film thickness shall be as stated by approved manufacturer for type of paint used.

b). Approved Manufacturers
Sherwin Williams Co.
Glidded ICI
Coronado
PPG

2-02: Approved Materials

Finish No. 1: Ferrous Metal - Interior:

Prime Coat (1) : Equal in all respects to:
Sherwin Williams Pro-Cryl Universal Primer B66 Series

Intermediate Coat (1) : Equal in all respects to:
Sherwin Williams Pre-Catalyzed Water based Epoxy Semi Gloss

Top Coat (1) : Equal in all respects to:
Sherwin Williams Pre-Catalyzed Water based Epoxy Semi Gloss

Finish No. 2: Wood - Interior:

Prime Coat (1) : Equal in all respects to:
Sherwin Williams PrepRite ProBlock Latex Primer/Sealer

Intermediate Coat (1) : Equal in all respects to:
Sherwin Williams ProMar 200 Zero VOC Interior Latex Semi Gloss

Top Coat (1) : Equal in all respects to:
Sherwin Williams ProMar 200 Zero VOC Interior Latex Semi Gloss

Finish No. 3: Masonry - Interior:

Prime Coat (1) : Equal in all respects to:
Sherwin Williams PrepRite Block Filler

Intermediate Coat (1) : Equal in all respects to:
Sherwin Williams ProMar 200 Zero VOC Interior Latex Semi Gloss

Top Coat (1) : Equal in all respects to:
Sherwin Williams ProMar 200 Zero VOC Interior Latex Semi Gloss

Finish No. 4: Plaster/Gypsum - Interior:

Prime Coat (1) : Equal in all respects to:
Sherwin Williams ProMar 200 Zero VOC Interior Latex Primer

Intermediate Coat (1) : Equal in all respects to:
Sherwin Williams ProMar 200 Zero VOC Interior Latex Semi Gloss

Top Coat (1) : Equal in all respects to:
Sherwin Williams ProMar 200 Zero VOC Interior Latex Semi Gloss

EXECUTION

3-01: Preparation of Surfaces

- 1) Surfaces to be finished shall be free of imperfections or contaminations which would interfere with uniform appearance, adhesion and quality of coating.
- 2) Ferrrous metal surfaces, excluding stainless steel surfaces, that will be exposed in complete work shall be prepared in accordance with SSCP-SP3, Power Tool Cleaning, for normal requirements, or SSCP-SP6, Commercial Blast Cleaning, for when prolonged job site exposure occurs, prior to placement of primer coat.
- 3) Galvanized steel surfaces shall be prepared in accordance with SSCP-SP1, Solvent Cleaning, prior to placement of primer coat.
- 4) Wood surfaces shall be sanded smooth and dust removed before application of any coating. Knots or sap spots shall be sealed with 2 pound cut shellac prior to application of prime coat. Nail holes shall be puttied or filled with plastic wood after priming or undercoating is applied, then sanded smooth; wood filler shall match color of finish where clear coats of finish are specified.
- 5) Abraded areas of shop coats shall be primed.
- 6) Existing rusted mechanical screen framing shall be prepped in accordance with the manufacturer's requirements.

3-02: Application

1) Methods

Materials may be applied to surfaces of large area by brush, roller or spray, provided that final coating has solid hiding and uniform appearance. Brush applied coatings shall be brushed out uniformly, to eliminate laps, skips, and excess brush marks. Cutting in with brush on surfaces adjoining roller or spray coated areas shall be done carefully so that finish will be of the same texture, color, and hiding as adjacent areas. Roller coated areas shall show no signs of lapping or excess paint lines from edges of roller. Spraying equipment shall be suitable in type and of adequate capacity for experienced painters, to assure a uniform finish of acceptable quality. Methods of application, including adherence to spreading rate listed by the approved paint manufacturer to obtain recommended dry mil thickness, time lapse between successive coats, etc., shall be in accordance with manufacturer's recommendations.

2) Mixing and Tinting

Job site tinting of finish coats shall be done only with the approval of the Architect.

Primer, undercoating, and intermediate coats shall each be visibly different in color from preceding coats. Tinted colors are to be of the type recommended by the manufacturer of the coatings approved for use on the project.

Thinning shall be done only when specifically permitted by the manufacturer; if permitted, it shall be done with the materials and to the extent recommended by the manufacturer; wit mil thickness shall be increased to provide manufacturer's recommended dry mil thickness.

3) Final Coatings

Finished work shall show no runs, sags, curtains, excessive brush marks, holidays, or other evidence of poor applications. Spot painting to correct soiled or damaged paint surfaces shall be blended into surrounding finish so that it will not be visible to normal viewing; if it is not, entire sections shall be re-

coated between corners or other approved stopping points. Edges of paint adjoining other materials or colors shall be sharp and clean, without overlapping. Sanding between coats, with fine sandpaper, shall be done as required to achieve even, smooth finish on wood and metal surfaces. Should the number of coats specified to be applied to surfaces herein listed not cover, additional coats shall be applied until a satisfactory finish is produced.

3-04: Protection and Cleaning

Adjacent work and materials shall be protected with suitable covers during painting and finishing operations. Splatters or spills of paint or other coatings on floors, adjacent coatings, glass, and other finished surfaces shall be carefully removed.

END OF SECTION

DIVISION 11

SECTION 115213 PROJECTION SCREENS

PART 1: GENERAL

1.01 Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install electrically operated, ceiling recessed front projection screens with related accessories and specialties as called for by the drawings and specified herein.

1.03 Related Work

- a) Division 5 - Metal Fabrications: Suspension systems for projection screens.
- b) Division 26 for electrical wiring, connections, and installation of control switches for electrically operated projection screens.

1.04 Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Approved Manufacturers:

Draper, Inc., Spiceland, IN
Da-Lite Eden Prairie, MN
Stewart Filmscreen Torrance, CA

1-05 Inspection of Surfaces

Area of curtain installation shall be examined before work is begun by installer to determine if conditions are acceptable to receive installation. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper conditions have been obtained. Beginning installation shall constitute acceptance of conditions by the installer.

1.06 References:

- a) NFPA 70 - National Electrical Code
- b) NFPA 701-99 - Fire Tests for Flame-Resistant Textiles and Films.

1.07 Submittals

- a) Product Data: For each type of product and the following:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendation.
 - 3. Installation methods.
- b) Wiring diagram for electrically operated units.
- c) Shop Drawings: Shop drawings showing layout and types of projection screens. Show the following:

1. Location of screen centerline.
2. Location of wiring connections.
3. Detailed drawings for concealed mounting.
4. Connections to suspension systems.
5. Anchorage details.
6. Accessories.

e) Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.08 Quality Assurance

- a) Single Source Responsibility: Obtain each type of projection screen required from a single manufacturer as a complete unit, including necessary mounting hardware and accessories.
- b) Coordination of Work: Coordinate layout and installation of projection screens with other construction supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system, and partitions.

1.09 Field Conditions

- a) Environmental Limitations: Do not install stage curtains until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work at and above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- b) Field Measurements: Verify locations of supporting structural elements and indicate measurements on Shop Drawings.

1.10 Warranty

- a) Manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.
- b) Warranty Period: Five (5) years from date of Substantial Completion

1.11 Delivery Storage and Handling

- a) Do not deliver projection screens until building is enclosed and other construction where screens will be installed is substantially complete.
- b) Store products in manufacturer's unopened packaging until ready for installation.
- c) Protect screens from damage during delivery, handling, storage, and installation.

PART 2: PRODUCTS

2.01 Manufacturer:

a) Basis of design is "Access V Electrically Operated Screen as manufactured by Draper, Inc., 411 S. Pearl P. O. Box 425; Spiceland, IN 47385-0425. 800-238-7999

2.02 Motorized, Recessed, Front Projection Screen

a) Access V: Electric motor operated, steel case. Ceiling-recessed, 18-gauge steel headbox, 7-3/8 inches high x 8-1/16 inches deep (188 mm high x 205 mm deep), including trim flanges with white paint finish and stamped 13-gauge steel end caps. UL approved "Suitable for use in environmental air space." Bottom closure panel forms slot for passage of viewing surface and can be released to hang down or be removed for access to operating mechanism and viewing surface. Bottom perimeter flange provides support and trim for acoustical ceiling panels and trim for gypsum board ceiling. Access case may be ordered in advance and the screen installed later to eliminate field damage. Screen installs in minutes. Housing is symmetrical allowing for left (standard) and right (optional) hand motor locations and for viewing surface to unroll off front or back of roller. Steel mounting brackets slide in extruded aluminum mounting system along top of case. Brackets supporting roller/fabric assembly slide in tracks inside top of the case, allowing viewing surface to be centered in case. Steel leveling brackets are attached to case to prevent deflection. Housing designed with internal junction box and plug-in wiring connections to allow housing to be installed and connected to building power supply separately from motor and viewing surface.

1. Motor mounted inside screen roller on rubber isolation insulators. Motor UL certified, rated 110-120V AC, 60 Hz, three wire, instantly reversible, lifetime lubricated with pre-set accessible limit switches.
2. Motor shall be left mounted.
3. Projection Viewing Surface:
"Draper" Matt White XT1000VB - On Axis gain of 1.0. 180 degree viewing cone. GREENGUARD Gold certified. Black backing. 4K ready.
4. Tab-Tensioning System: Viewing surface with integrated tabs and cable on each side of fabric to provide tension and ensure flat viewing surface. Viewing surface and tabs CNC cut as a single piece. Tabs RF welded to the back of viewing surface to prevent tab separation. Tab adhesives are not acceptable. Viewing surface inserted into aluminum bottom dowel.
5. Viewing Area H x W: HDTV Format (16:9). Black masking borders standard. 161 inch (4089 mm) diagonal, 80 inches x 140 inches (2032 mm x 3556 mm).

2.03 Screen Controls:

a) General: All controls are UL Certified.

1. Single station control rated 115V AC, 60 Hz with 3-position rocker switch with cover plate to stop or reverse screen at any point.

PART 3: EXECUTION

3.01 Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in installation of products specified herein.

3.02 Examination:

- a) Examine areas and conditions, with Installer present, for compliance with requirements for supporting members, blocking, installation tolerances, clearances, and other conditions affecting performance of screens.
- b) Examine inserts, clips, blocking, or other supports required to be installed by others.
- c) Proceed with installation only after unsatisfactory conditions have been corrected

3.03 Preparation:

- a) Clean surfaces thoroughly prior to installation.
- b) Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions .

3.04 Installation:

- a) Install in accordance with manufacturer's instructions.
- b) Install front projection screens with screen cases in position and relationship to adjoining construction as indicated, securely anchored to supporting substrate, and in manner that produces a smoothly operating screen with plumb and straight vertical edges and plumb and flat viewing surfaces when screen is lowered.
- c) Test electrically operated units to verify that screen, controls, limit switches, closure and other operating components are in optimum functioning condition.

3.05 Protection

- a. Protect installed products until completion of project .
- b. Touch-up, repair or replace damaged products before Substantial Completion

END OF SECTION

DIVISION 12

SECTION 12 21 13 WINDOW TREATMENTS

PART 1: GENERAL

1.01 Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install 1" Horizontal Aluminum Blinds with related accessories and specialties as called for by the drawings and specified herein.

See the following sections for related work:

062000 Finish Carpentry

092500 Gypsum Bd

099000 Painting

1.04 Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Approved Manufacturers:

SWFcontract by Springs Window Fashions

Bali

Hunter Douglas

1-05 Inspection of Surfaces

Area of blind installation shall be examined before work is begun by installer to determine if conditions are acceptable to receive installation. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper conditions have been obtained. Beginning installation shall constitute acceptance of conditions by the installer.

1.06 Reference Standards:

a) GREENGUARD Gold Certified

b) NFPA No. 701-Standard Method of Fire Tests for Flame Propagation of Textiles and Films, 2015 Edition, Small Scale

1.07 Submittals

a) Product Data: For each type of product and the following:

1. Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions for window treatments
2. Storage and handling requirements and recommendation.
3. Installation methods.

b) Samples for selection: for each color and texture specified, submit 2 sets of samples representing manufacturer's standard range of finishes for aluminum slats at 6 inches (152 mm) long. Include Samples

of accessories involving color selection.

c) Shop Drawings: Show fabrication and installation details for window treatments.

1.08 Quality Assurance

a) Installer shall be qualified to install specified products by prior experience and approved by Manufacturer

b) Single Source Requirement: To the greatest extent possible, provide Classics™ 1" Aluminum Blinds from the same manufacturer for the entire project.

1.09 Field Conditions

a) Environmental Limitations: Do not install window treatments until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

b) Field Measurements: Where window treatments are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work

1.10 Warranty

a) Manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.

b) Warranty Period: One (1) years from date of Substantial Completion

1.11 Delivery Storage and Handling

a) Deliver product in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

b) Store product in clean, dry areas indoors, in manufacturer's unopened packaging, laid flat to prevent sagging and twisting until ready for installation, in accordance with manufacturer's instructions

c) Handling: Protect materials and finish from damage during handling and installation.

PART 2: PRODUCTS

2.01 Manufacturer:

a) Basis of design is "SWFcontract Classics 1 Aluminum Blinds", manufactured by SWFcontract by Springs Window Fashions, LLC Middleton WI

2.02 Materials:

a) Headrail shall be 1" high x 1-1/2" wide x .025" thick U-shaped steel. The steel finishing process includes phosphate treatment for corrosion resistance, a chrome-free sealer, a low HAP urethane primer, and a topcoat of low HAP polyester-baked enamel.

- b) Tilter shall be made of injection-molded thermoplastics for smooth low-friction operation and shall incorporate a clutch mechanism to prevent damage due to over tilting.
- c) Tilt rod shall be electro-zinc coated solid steel measuring 1/4" square.
- d) Tilt wand shall be clear polycarbonate with a hexagonal cross section measuring approximately 1/4" diameter and attached to the tilter shaft by means of a spring clip for easy removal.
- e) Cordlock shall be a snap-in design made of durable high-impact nylon with a stainless-steel wear guard incorporating a floating shaft-type locking pin. The design provides a crash-proof safety feature that will lock the blinds automatically upon release of the lift cord.
- f) Drum and cradles shall be low-friction thermoplastic and provided for each ladder.
- g) Installation brackets shall be made of phosphate-treated steel with a urethane primer and polyester-baked enamel finish to match headrail. The design shall incorporate a hinged front cover.
- h) Braided ladder shall be made of 100% polyester yarn, incorporating two extra-strength rungs per ladder for slat support. Standard ladder spacing shall be 21.5mm.
- i) Slats shall be 5000 series cold-rolled aluminum containing the maximum allowable recycled content to produce a high-strength and corrosion-resistant flexible product. Slats shall be nominally 1" wide x .008" thick and processed to provide a smooth, hard, less porous surface with antistatic performance to repel dust. Slats shall be treated with a topcoat of polyester-baked enamel.
- j) Bottomrail shall be a completely enclosed tubular shape made of phosphate-treated steel for corrosion resistance and finished with a chrome-free sealer, low HAP urethane primer, and a topcoat of low HAP, polyester-baked enamel. Bottomrail shall measure .025" thick.

2.03 Finishes:

- a) Slat color to be selected from manufacturers standards. Cords and tassels to be coordinated with slat color.

PART 3: EXECUTION

3.01 Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in installation of products specified herein.

3.02 Examination:

- a) Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance of the work.

- b) Proceed with installation only after unsatisfactory conditions have been corrected

3.03 Installation:

- a) Install window treatments level, plumb, and aligned with adjacent units per manufacturer's written instructions. Install with adequate clearance to permit smooth operation of the window treatments through the entire operational range.

3.04 Adjusting:

- a) Adjust and balance window coverings to operate smoothly, easily, safely, and free from binding or malfunction throughout the entire operational range

- c) Test electrically operated units to verify that screen, controls, limit switches, closure and other operating components are in optimum functioning condition.

3.05 Cleaning and Protection

- a) Clean surfaces after installation, per manufacturer's written instructions. Do not use cleaning methods involving heat, bleach, abrasives, or solvents.

- b) Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, ensuring that window treatments are without damage or deterioration at time of Substantial Completion.

- c) Replace damaged window treatments that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

END OF SECTION

SECTION 125219 UPHOLSTERED SEATING (Base Bid)

PART 1: GENERAL

1.01 Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install fixed padded and upholstered chairs as specified, floor mounted, with self-lifting seat that rises to a uniform 3/4-safety fold position. with related accessories and specialties as called for by the drawings and specified herein.

1.03 Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Approved Manufactures:

Irwin Seating Company Grand Rapid, MI
Camatic Farmers Branch, TX
Hussey North Berwick, Maine

1-04 Inspection of Surfaces

Area of installation shall be examined before work is begun by installer to determine if conditions are acceptable to receive seating installation. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper conditions have been obtained. Beginning installation shall constitute acceptance of conditions by the installer.

1.05 Submittals

a) Product data for each chair model specified to include construction details, material descriptions and finish options

b) Seating layout (shop drawings) developed from the contract drawings that show aisle widths, chair spacing for each row, row-lettering and chair-numbering scheme, chair dimensions and back pitch. Layout drawings to also include locations for accessories, including left- and right-hand tablet arms, electrical devices, accessibility provisions and attachments to other work.

c) Samples for verification & finish selection to include:

1. Initial finish selections to be made from manufacturer's standard color and fabric guides.
2. Final powder coat selection to be approved from manufacturers standard-sized samples not less than 1" x 3" .
3. Final plastic color selection to be approved from manufacturers standard-sized samples not less than 2" x 3".
4. Final plastic color selection to be approved from manufacturers standard-sized samples not less than 2" x 3".

5. Final wood finish selection to be approved from manufacturers standard-sized samples not less than 4" x 3".
6. Final upholstery fabric selection to be approved from fabric mills standard swatch size if available.

d) Maintenance instructions and inspection guidelines furnished for each chair model specified.

e) Manufacturers standard warranty.

1.06 Quality Assurance

a) Source Limitations:

1. Obtain each type of fixed seating required, including accessories and mounting components, from a single manufacturer.
2. Obtain fabric of a single dye lot for each color and pattern of fabric required except when yardage requirement exceeds maximum dye lot. Multiple dye lots shall be color matched for quality assurance. .

b) Fire Performance Characteristics of Upholstered Seating:

1. Fabric shall be Class 1 according to DOC CS 191 and 16 CFR 1610.61, tested according to California Technical Bulletin 117.
2. Padding shall comply with California Technical Bulletin 117.

1.07 Project Conditions

a) Environmental Conditions: Do not deliver or install seating until spaces are enclosed and weather tight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary or permanent HVAC system is operating and maintaining ambient temperature and humidity at occupancy levels during the remainder of the construction period.

b) Field Measurements: Take field measurements to verify or supplement dimensions indicated on contract drawings prior to manufacturing.

1.08 Project Coordination:

a) Do not deliver or install seating until space is free of lifts and/or scaffolding used by other trades which may interfere with installation and/or damage seating.

b) Coordinate layout and installation of electrical wiring and devices with electrical contractor to ensure that floor junction boxes for electrical devices are accurately located for final connection to the building's power supply by the electrical contractor.

c) Coordinate layout and installation of seating with HVAC contractor to ensure that vents are located in a manner that will not interfere with seating installation.

d) Coordinate concrete requirements needed for proper installation.

1.09 Warranty

- a) Provide a manufacturer's warranty covering the material and workmanship for the specified warranty period from date of final acceptance. .
- b) Warranty Periods:
 1. Structural Components: five years.
 2. Operating Mechanisms: five years.
 3. Plastic, Wood and Painted Components: five years.
 4. Upholstery Fabric: one year.
 5. Electrical Components: one year.

1.10 Storage and Materials

- a) All materials to be stored inside facility in original packaging until use. Protect from work of other trades.

PART 2: PRODUCTS

2.01 General:

Basis-of-design for fixed audience seating is Irwin Seating Company Model "90.12.10.4 Citation"

2.02 Materials and Finishes:

- a) Steel shall meet requirements for ASTM A 36/A 36M plates, shapes, and bars; ASTM A 513 mechanical tubing; ASTM A 1008/A 1008M cold-rolled sheet; and ASTM A 1011 hot-rolled sheet and strip.
- b) Cast Iron shall meet requirements for ASTM A 48/A 48M, Class 25, gray iron castings free of blow holes and hot checks with parting lines ground smooth.
- c) Cast Aluminum shall meet requirements for ASTM B 85 aluminum-alloy die castings.
- d) All exposed metal parts shall be powder coated with a hybrid thermosetting powder coat finish. The powder coat finish shall be applied by electrostatic means to a thickness of 2 - 5 mils, and shall provide a durable coating having a 2H Pencil hardness. Prior to powder coating, metal parts shall be treated with a three-stage non-acidic, bonderizing process for superior finish adhesion, and after coating shall be oven baked to cause proper flow of the epoxy powder to result in a smooth, durable finish. Manufacturer's standard color range shall be used.
- e) Medium-density fiberboard shall meet requirements for ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
- f) Concealed plywood shall meet requirements for HPVA HP-1 hardwood plywood.
- g) Exposed plywood shall meet requirements for HPVA HP-1, Face Grade A, hardwood veneer core with color-matched hardwood-veneer faces, made with adhesive containing no urea formaldehyde.
- h) Hardwood lumber and veneer faces shall be red oak selected to be free of visible defects. Exposed wood shall be sanded smooth and stained to color selected with low-VOC water-based stain and top coat to provide with a high quality finish. Color to be chosen from manufacturer's standard offering.
- i) Upholstery fabric shall be 100% pre-consumer recycled polyester Open House pattern by Guilford of Maine. Fabric shall have a weight of 12.4 oz. per lineal yard (\pm 1 oz.). Fabric shall meet specifications

AATCC 16 Option 3, AATCC 107 and AATCC 8 for color fastness and withstand 250,000 double rubs per ASTM D-4157. Fabric shall meet flammability resistance outlined in California Technical Bulletin 117; NFPA 260-1989, Class 1; UFAC, class 1.

j) Upholstery padding shall be molded or slab polyurethane foam.

k) Molded Plastics:

1. Structural components shall be mar and dent resistant high density glass-filled polypropylene with UV stabilizers.
2. Decorative components shall be mar and dent resistant high density polyethylene (HDPE) with UV stabilizers.
3. Plastic components shall be chosen from manufacturer's standard offering.

2.03: Fixed Audience Seating:

a) Permanent arrangement of fixed audience seating as shown on seating layout drawings.

b) Chair support columns shall be a formed 14 gauge (.0747") steel tube with an integral back wing plate. Column shall exhibit a 10° rearward incline to help conceal back attachment hardware. Brackets for seat attachment shall be 7-gauge (.1875") steel for superior strength, formed with an integral support buttress. Floor attachment foot shall be formed from 12 gauge (.105) steel to 7-1/2" x 2-5/8" in size. All steel components shall be robotic welded for precise assembly and exceptional integrity. Foot-to-column welds are to be concealed on the inside of the foot for a clean appearance. The standard shall be fabricated to be compatible with the floor incline, and to maintain proper seat and back height and angle.

c) Aisle end panels shall be injection molded glass-filled polypropylene and enclose the upper 2/3 of the support column. Panels are teardrop-shaped with a concave rear edge and well-rounded surfaces around a center area, which features a laminate surfaced insert.

d) Backs shall be rectangular shaped, padded and upholstered on their face, with a one-piece injection molded polymer rear panel. The foundation of the back component shall be provided by a 7/16" thick, 5-ply hardwood inner panel that shall also serve as the upholstery substrate. The face of the back shall be upholstered over a 2" thick polyurethane foam pad. The polyfoam pad shall be securely cemented to the plywood inner panel and upholstered with a 1-piece cover securely fastened to the hardwood inner panel by means of upholstery staples to facilitate ease of re-upholstering. The rear designer panel shall be injection molded HDPE plastic, high impact-resistant, with textured outer surface, formed to enclose the edges of the inner upholstery panel at the top and both sides of the back, and shall be not less than 25" in length, extending down to the rear of the seat. There shall be no exposed screws above the armrests. Wings used for the attachment of the complete back assembly to the standards shall be not less than 14 gauge (.0747") steel. Wings shall be firmly secured to the inner panel through the use of threaded t-nuts fastened to the inner panel. Assembled chair shall have a nominal back height of 34". The back assembly shall be certified through routine ISO testing to withstand a 250 lb. static load test applied approximately 16" above the seat assembly and a 100,000 cycle 40 lb. swing impact test.

e) Seats shall be padded and upholstered on their top surface with a structural, injection molded polypropylene seat foundation. Seats shall self-rise to a uniform position when unoccupied. The mechanism shall be certified through routine ISO testing to exceed 300,000 cycles during ASTM Designation F851-87 Test Method for Self-Rising Seat Mechanism. In addition, the seat shall withstand as a 600 lb. static load test applied approximately 3" from the front edge of the seat assembly and a 50,000 cycles 125 lb. vertical drop impact test.

1. Seat foundation shall be engineered glass-filled, injection molded polypropylene, strengthened by deep internal ribs and gussets, completely enclosing the self-rising hinge mechanism. Bottom surface of the foundation shall be textured and feature an attractive molded recess. Bolted attachment of the seat assembly to the chair standard shall be concealed by an integral color-coordinated plastic cap to present a finished, refined appearance.
2. When unoccupied, the seat shall rise automatically to a 3/4 safety fold position, and upon a slight rearward pressure, shall achieve full-fold, allowing the patron additional passing room. The seat shall rotate on two, molded acetal shafts supported by nylon bearings with integral down-stops for exceptional strength. Seat-lift shall be accomplished by compression springs and self-lubricating plastic cams.
3. The base structure for the cushion assembly shall be five serpentine springs locked to an engineered, glass-filled polypropylene frame. Serpentine springs are covered with 3-1/2" thick molded polyurethane foam. Cushion is molded with an integral chafing barrier to protect the foam from the serpentine springs and a waterfall leading edge. Cushion assembly is upholstered with a carefully tailored fabric cover secured around the perimeter of the cushion frame by means of a drawstring and staples and securely locked to the seat foundation, preventing unauthorized removal; but facilitating convenient access by trained maintenance personnel.

f) Chair width twenty inches (20")

g) Back height and pitch shall be fixed as shown on seating layout drawings.

h) Center standards shall be provided with a glass-filled polypropylene armrest support structure capable of surpassing a 200 lb. vertical static load test applied 3" from the front edge of the armrest. Armrest support shall be attached to the support column with an integral ribbed post that binds into the steel support column and locked in place with a concealed security screw. Support structure is capped with a solid hardwood, laminate surfaced arm attached with concealed hardware. Aisle end armrests are to be attached to the 14-gauge aisle panel bracket with concealed hardware.

i) Row-lettering and chair-numbering shall be provided for identification of all chairs as shown on approved seating layout drawings. Number plates shall be 5/8" x 1-5/8" aluminum with a bronze finish and black sans serif numerals. The seat pans shall be recessed at the center of the front edge for the number plates, and attached by two (2) pop rivets. Letter plates shall be 5/8" x 1-5/8" with a bronze finish and black sans serif numerals attached in recess of aisle standard armrest by two (2) escutcheon pins. Attaching hardware shall have a finish compatible to plates.

j) Furnish extra materials from the same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Furnish six (6) complete seat and back assemblies for each type and size of chair seat and back.
2. Furnish six (6) seat and back fabric covers for each type and size of cushion.
3. Furnish six (6) armrests for each type of armrest.

2.04 Fabrication:

- a) Manufacture fabric-covered cushions with molded padding beneath fabric and with fabric covering free of welts, creases, stretch lines, and wrinkles. For each upholstered component, install pile and pattern run in a consistent direction.
- b) Fabricate floor attachment plates to conform to floor slope, if any, so that standards are plumb and chairs are maintained at same angular relationship to vertical throughout project

PART 3: EXECUTION

3.01 Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in installation of products specified herein.

3.02 Examination:

- a) Prior to layout and installation examine floors, risers, and other adjacent work and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the work including, but not limited to, plumb of riser faces and concrete conditions.
- b) Examine locations of electrical connections, and HVAC supply ducts.
- c) Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 Installation:

- a) Install seating in locations indicated and fastened securely to substrates according to manufacturer's written installation instructions .
- b) Use installation methods and fasteners that produce fixed audience seating assemblies with individual chairs capable of supporting an evenly distributed 600-lb static load applied 3" from front edge of the seat without failure or other conditions that might impair the chair's usefulness.
- c) Install seating with chair end standards aligned from first to last row and with backs and seats varied in width and spacing to optimize sightlines.
- d) Install riser-mounted attachments to maintain uniform chair heights above floor.
- e) Install chairs in curved rows at a smooth radius.
- f) Install seating so moving components operate smoothly and quietly.
- g) Install wiring conductors and cables concealed in components of seating and accessible for servicing.

3.04 Field Quality Control

- a) Perform tests and inspections.
- b) Prepare test and inspection reports.

3.05 Adjusting and Cleaning

- a) Adjust chair backs so that they are properly aligned with each other.
- b) Adjust self-rising seat mechanisms so seats in each row are aligned when in upright position.
- c) Verify that all components and devices are operating properly.
- d) Repair minor abrasions and imperfections in finishes with coating that matches factory-applied finish.
- e) Replace upholstery fabric damaged during installation.
- f) Protect seats until project is accepted by Owner.

END OF SECTION

SECTION 125229 FIXED SEATING (Alternate No. 2)

PART 1: GENERAL

1.01 Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes labor, materials, equipment, and related services necessary to furnish and install fixed chairs as specified, floor mounted, with self-lifting seat that rises to a uniform 3/4-safety fold position. with related accessories and specialties as called for by the drawings and specified herein.

1.03 Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Approved Manufactures:

Irwin Seating Company Grand Rapid, MI
Camatic Farmers Branch, TX
Hussey North Berwick, Maine

1-04 Inspection of Surfaces

Area of installation shall be examined before work is begun by installer to determine if conditions are acceptable to receive seating installation. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper conditions have been obtained. Beginning installation shall constitute acceptance of conditions by the installer.

1.05 Submittals

a) Product data for each chair model specified to include construction details, material descriptions and finish options

b) Seating layout (shop drawings) developed from the contract drawings that show aisle widths, chair spacing for each row, row-lettering and chair-numbering scheme, chair dimensions and back pitch. Layout drawings to also include locations for accessories, including left- and right-hand tablet arms, electrical devices, accessibility provisions and attachments to other work.

c) Samples for verification & finish selection to include:

1. Initial finish selections to be made from manufacturer's standard color and fabric guides.
2. Final powder coat selection to be approved from manufacturers standard-sized samples not less than 1" x 3".
3. Final plastic color selection to be approved from manufacturers standard-sized samples not less than 2" x 3".
4. Final plastic color selection to be approved from manufacturers standard-sized samples not less than 2" x 3".

d) Maintenance instructions and inspection guidelines furnished for each chair model specified.

e) Manufacturers standard warranty.

1.06 Quality Assurance

a) Source Limitations:

1. Obtain each type of fixed seating required, including accessories and mounting components, from a single manufacturer.
2. Obtain fabric of a single dye lot for each color and pattern of fabric required except when yardage requirement exceeds maximum dye lot. Multiple dye lots shall be color matched for quality assurance. .

b) Fire Performance Characteristics of Upholstered Seating:

1. Fabric shall be Class 1 according to DOC CS 191 and 16 CFR 1610.61, tested according to California Technical Bulletin 117.
2. Padding shall comply with California Technical Bulletin 117.

1.07 Project Conditions

a) Environmental Conditions: Do not deliver or install seating until spaces are enclosed and weather tight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary or permanent HVAC system is operating and maintaining ambient temperature and humidity at occupancy levels during the remainder of the construction period.

b) Field Measurements: Take field measurements to verify or supplement dimensions indicated on contract drawings prior to manufacturing.

1.08 Project Coordination:

a) Do not deliver or install seating until space is free of lifts and/or scaffolding used by other trades which may interfere with installation and/or damage seating.

b) Coordinate layout and installation of electrical wiring and devices with electrical contractor to ensure that floor junction boxes for electrical devices are accurately located for final connection to the building's power supply by the electrical contractor.

c) Coordinate layout and installation of seating with HVAC contractor to ensure that vents are located in a manner that will not interfere with seating installation.

d) Coordinate concrete requirements needed for proper installation.

1.09 Warranty

a) Provide a manufacturer's warranty covering the material and workmanship for the specified warranty period from date of final acceptance. .

b) Warranty Periods:

1. Structural Components: five years.
2. Operating Mechanisms: five years.

3. Plastic, Wood and Painted Components: five years.
4. Electrical Components: one year.

1.10 Storage and Materials

a) All materials to be stored inside facility in original packaging until use. Protect from work of other trades.

PART 2: PRODUCTS

2.01 General:

Basis-of-design for fixed audience seating is Irwin Seating Company Model "30.52.00.30 Patriot "

2.02 Materials and Finishes:

a) Steel shall meet requirements for ASTM A 36/A 36M plates, shapes, and bars; ASTM A 513 mechanical tubing; ASTM A 1008/A 1008M cold-rolled sheet; and ASTM A 1011 hot-rolled sheet and strip.

b) All exposed metal parts shall be powder coated with a hybrid thermosetting powder coat finish. The powder coat finish shall be applied by electrostatic means to a thickness of 2 - 5 mils, and shall provide a durable coating having a 2H Pencil hardness. Prior to powder coating, metal parts shall be treated with a three-stage non-acidic, bonderizing process for superior finish adhesion, and after coating shall be oven baked to cause proper flow of the epoxy powder to result in a smooth, durable finish. Manufacturer's standard color range shall be used .

c) Molded Plastics:

1. Structural components shall be mar and dent resistant high density glass-filled polypropylene with UV stabilizers.
2. Decorative components shall be mar and dent resistant high density polyethylene (HDPE) with UV stabilizers.
3. Plastic components shall be chosen from manufacturer's standard offering.

2.03: Fixed Audience Seating:

a) Permanent arrangement of fixed audience seating as shown on seating layout drawings.

b) Chair support columns shall be a formed 1" x 3" 14 gauge (.0747") steel column with a welded back wing plate. Column shall extend in one piece from formed steel dovetail lug plate used for armrest attachment to the mounting foot. Brackets for seat attachment shall be 7 gauge (.1875") steel for superior strength, formed with an integral support buttress. Floor attachment foot shall be formed from 14 gauge (.0747) steel to 8" x 2-3/4" in size. All steel components shall be MIG welded. Foot-to-column welds are to be concealed on the inside of the foot for a clean appearance. The standard shall be fabricated to be compatible with the floor incline, and to maintain proper seat and back height and angle.

c) Aisle end standard shall be open in design and supplied without an aisle panel.

d) Back components shall be one-piece, double-wall blow-molded plastic with an ergonomic compound curve. Plastic must be high density, high impact-resistant linear polyethylene with a smooth finish. The face of the back shall feature a decorative recess molded around the perimeter of the back and a recess for a seat number plate. The blow-molded plastic shall be designed to be a sturdy structural component

with threaded inserts molded into the rear of the back for attachment of 14-gauge steel wings. The back assembly shall be certified through routine ISO testing to withstand a 250 lb. static load test applied approximately 16" above the seat assembly and a 100,000 cycle 40 lb. swing impact test

e) Molded Plastic Seat

1. The seat components shall be one-piece, double-wall construction formed with impact-resistant, blow-molded, (HDPE) high density polyethyleneplastic, with a smooth surface. The tops of the seats shall be formed to provide even, comfortable support for the seated individual by properly contouring to the shape of the human form. Seat components shall be molded to avoid sharp, pressure-generating ridges by gently falling away at the front of the seat. The underside of the seat shall be recessed to provide support of the seat surface. Structural seat-lift arms shall transfer the occupant load to the cast iron pivot and the chair's support structure (standards). Seat-lift arms shall be formed from engineered injection-molded, glass-filled nylon plastic, and colored to blend aesthetically with the blow-molded plastic.

2. Seats shall lift automatically to a uniform three-quarter fold position when unoccupied, and shall rotate on two molded, structural, glass-filled nylon hinge rods in internally molded channels with integral down-stops for exceptional strength. Seat-lift shall be accomplished by compression springs and lubricated, high-tech plastic cams, providing quiet, gentle seat uplift. Seats shall be certified through routine testing during manufacturing to pass seat cycle oscillation, ASTM Designation F851-87 Test Method for Self-Rising Seat Mechanism, and 600 lb. static load to front of seat.

f) Chair width twenty inches (20")

g) Back height and pitch shall be fixed as shown on seating layout drawings.

h) Aisle and center standard armrests shall be molded HDPE plastic, formed to be aesthetically compatible with other chair components. Armrests shall have locking keyways molded into the bottom to securely lock onto heavy steel tabs at the top of the standards. Further, one security screw shall be utilized.

i) Row-lettering and chair-numbering shall be provided for identification of all chairs as shown on approved seating layout drawings. Number plates shall be 1-3/4" x 2-3/4" aluminum with a clear finish and black numerals. Number plates shall be placed in back recess, and attached by two (2) pop rivets. Letter plates shall be 2" round with a clear finish and black sans serif numerals attached to aisle standard by two (2) pop rivets. Attaching hardware shall have a finish compatible to plates.

j) Furnish extra materials from the same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Furnish six (6) complete seat and back assemblies for each type and size of chair seat and back.
2. Furnish six (6) armrests for each type of armrest.

2.04 Fabrication:

- a) Fabricate floor attachment plates to conform to floor slope, if any, so that standards are plumb and chairs are maintained at same angular relationship to vertical throughout project

PART 3: EXECUTION

3.01 Qualification of Mechanics

Work specified in this section shall be performed by mechanics experienced and skilled in installation of products specified herein.

3.02 Examination:

- a) Prior to layout and installation examine floors, risers, and other adjacent work and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the work including, but not limited to, plumb of riser faces and concrete conditions.
- b) Examine locations of electrical connections, and HVAC supply ducts.
- c) Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 Installation:

- a) Install seating in locations indicated and fastened securely to substrates according to manufacturer's written installation instructions .
- b) Use installation methods and fasteners that produce fixed audience seating assemblies with individual chairs capable of supporting an evenly distributed 600-lb static load applied 3" from front edge of the seat without failure or other conditions that might impair the chair's usefulness.
- c) Install seating with chair end standards aligned from first to last row and with backs and seats varied in width and spacing to optimize sight lines.
- d) Install riser-mounted attachments to maintain uniform chair heights above floor.
- e) Install chairs in curved rows at a smooth radius.
- f) Install seating so moving components operate smoothly and quietly.
- g) Install wiring conductors and cables concealed in components of seating and accessible for servicing.

3.04 Field Quality Control

- a) Perform tests and inspections.
- b) Prepare test and inspection reports.

3.05 Adjusting and Cleaning

- a) Adjust chair backs so that they are properly aligned with each other.
- b) Adjust self-rising seat mechanisms so seats in each row are aligned when in upright position.

- c) Verify that all components and devices are operating properly.
- d) Repair minor abrasions and imperfections in finishes with coating that matches factory-applied finish.
- e) Replace upholstery fabric damaged during installation.
- f) Protect seats until project is accepted by Owner.

END OF SECTION

DIVISION 14

SECTION 14 42 16 VERTICAL PLATFORM WHEELCHAIR LIFT (Alternate No. 1)
PART 1: GENERAL

1.01 Reference to Other Documents

The General Conditions, Supplementary Conditions and Division 1 contain requirements relevant to work covered by this section.

1.02 Work Included

This section includes labor, materials, equipment, and related service necessary to furnish and install unenclosed, self-contained vertical platform wheelchair lift with related accessories and specialties indicated indicated on drawings and specified herein.

1.03 Substitutions

For purposes of establishing type and quality of materials required in this section, manufacturer's names and brand names are used. Equal products of other manufacturers will be acceptable, provided that requests for substitutions are accompanied by supporting technical literature, samples, drawings, and performance data for comparative evaluation within 10 days prior to receipt of Bids.

Approved Manufacturers

Garaventa Surrey BC, Canada
Symmetry Elevator Solutions Peoria, IL
Savaria 2 Walker Drive Brampton Ontario, Canada

1-04 Inspection of Surfaces

Area of installation shall be examined before work is begun by installer to determine if conditions are acceptable to receive seating installation. Report improper conditions to General Contractor and to Architect in writing; work shall not proceed until proper conditions have been obtained. Beginning installation shall constitute acceptance of conditions by the installer.

1.05 Related Sections

- a) Section 06100 - Rough Carpentry
- b) Section 06200 - Finish Carpentry
- c) Section 09260 - Gypsum Board
- d) Division 16 - Electrical Construction

1.06 References

- a) ASME A17.1 - Safety Code for Elevators and Escalators
- b) ASME A17.5 - Elevator and Escalator Electrical Equipment
- c) ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts
- d) CSA B44 - Safety Code for Elevators and Escalators
- e) CSA B355 - Lifts for Persons with Physical Disabilities
- f) ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities
- g) NFPA 70 - National Electric Code
- h) CSA - National Electric Code

1.07 Submittals

- a) Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Submit manufacturer's installation instructions, including preparation, storage and handling requirements.
 - 2. Include complete description of performance and operating characteristics.

- b) Shop Drawings:
 - 1. Show typical details of assembly, erection and anchorage.
 - 2. Include wiring diagrams for power, control, and signal systems.
 - 3. Show complete layout and location of equipment, including required clearances and coordination with shaftway.
- c) Selection Samples: For each finished product specified, provide two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- d) Verification Samples: For each finished product specified, two samples, minimum size 1-3/4" x 2-1/4", representing actual product, color, and patterns.
- e) Manufacturer Qualifications: Firm with minimum 20 year's experience in manufacturing of vertical platform wheelchair lifts, with evidence of experience with similar installations of type specified.
- f) Installer Qualifications: Licensed to install equipment of this scope, with evidence of experience with specified equipment. Installer shall maintain an adequate stock of replacement parts, have qualified people available to ensure fulfillment of maintenance and callback service without unreasonable loss of time in reaching project site.

1.08 Regulatory Requirements

- a) Provide platform lifts in compliance with:
 - 1. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
 - 2. ASME A17.1 - Safety Code for Elevators and Escalators.
 - 3. ASME A17.5 - Elevator and Escalator Electrical Equipment.
 - 4. NFPA 70 - National Electric Code

1.09 Storage of Materials

- a) All materials to be stored inside facility in original packaging until use. Protect from work of other trades.

1.10 Project Coordination:

- a) Do not deliver or install equipment until space is free of lifts and/or scaffolding used by other trades which may interfere with installation and/or cause damage.
- b) Coordinate layout and installation of electrical wiring and devices with electrical contractor to ensure that junction boxes for electrical devices are accurately located for final connection to the building's power supply by the electrical contractor.
- c) Coordinate concrete requirements needed for proper installation.
- d) Do not use wheelchair lift for hoisting materials or personnel during construction period.

1.11 Warranty

- a) Warranty: Manufacturer shall warrant the wheelchair lift materials and factory workmanship for two years following completion of installation.
- b) Extended Warranty: Provide an extended manufacturer's warranty for the entire warranty period covering the wheelchair lift materials and factory workmanship for the following additional

extended period beyond the initial one-year warranty. Preventive Maintenance agreement required.

1. Five additional years.

PART 2: PRODUCTS

2.01 Unenclosed Vertical Wheelchair Lift. Basis of Design: Garaventa Lift

- a) Capacity: 750 lbs (340 kg) rated capacity
- b) Model GVL-OP-42; 45 inches (1143 mm) maximum lifting height.
- c) Platform Size and Nominal Clear Platform Dimensions : 36 inches (914 mm) by 48-7/8 inches (1242 mm) clear platform dimensions
- d) Platform Configuration: Straight Through: Front and rear openings.
- e) Landing Openings: Gates shall be self closing type.
 1. Gate Height: 42-1/8 inches (1070 mm).
 2. Platform Gate: Travels with platform and opens at lower landing
 3. Upper Landing Gate: Installed at upper landing
- f) Power Gate Operators:
 1. Location
 - a) Platform Gate: Travels with platform and opens lower landing.
 - b) Upper Landing Gate.
 2. Automatically opens the gate when platform arrives at a landing. Will also open at landing by pressing call button.
 3. ADA Compliant and obstruction sensitive.
 4. Low voltage, 24 VDC with all wiring concealed.
- g) Lift Components:
 1. Machine Tower: Aluminum extrusion.
 2. Base Frame: Structural steel.
 3. Platform Side Wall Panels: 16 gauge (1.5 mm) galvanized steel sheet.
 4. Platform Access Ramp: 12 gauge (2.5 mm) galvanized steel plates; slip resistant surfaces.
 - a) Ramp: Automatic folding type.
 5. Side Guard Panels: 42-1/8 inches (1070 mm) high mounted on platform.
- h) Base Mounting at Lower Landing:
 1. Floor Mount: Base of lift shall be mounted on the floor surface of the lower landing. For access onto the platform provide a ramp of 16 gauge (1.5 mm) galvanized steel sheet with a slip resistant surface.
- i) Leadscrew Drive:
 1. Drive Type: Self-lubricating acme screw drive.
 2. Emergency Operation: Manual handwheel device to raise or lower platform.
 3. Battery Powered Emergency Lowering: Battery powered platform lowering device that automatically activates in the event of power failure. Allows

passenger to drive platform downward to lower landing. Does not operate lift in up direction.

4. Safety Devices:
 - a) Integral safety nut assembly with safety switch.
 5. Travel Speed: 10 fpm (3.0 m/minute).
 6. Motor: 2.0 hp (560 W).
 7. Power Supply:
 - a) 120 VAC single phase; 60 Hz on a dedicated 20-amp circuit.
 - b) 208/240 VAC, single phase; 50 Hz on a dedicated 16 amp circuit.
- k) Platform Controls: 24 VDC control circuit with the following features.
1. Direction Control:
 - a) Continuous pressure rocker switch.
 2. Keyed operation.
 3. Call Station Mounting:
 - a) Lower: Wall mounted surface.
 - b) Upper: Frame mounted.
- l) Safety Devices and Features:
1. Grounded electrical system with upper, lower, and final limit switches.
 2. Tamper resistant interlock to electrically monitor that the gate is in the closed position and the lock is engaged before lift can move from landing.
 3. Pit stop switch mounted on mast wall.
 4. Electrical disconnect shall shut off power to the lift.
 5. Under platform safety pan with five waterproof safety switches to detect obstruction under platform.
- l) Finishes:
1. Extruded aluminum electrostatically applied baked powder finish, semi matte Silver Moon.
 2. Ferrous Components: Electrostatically applied baked powder finish, semi matte. Color: Silver Moon

PART 3: EXECUTION

3.01 Examination

- a) Do not begin installation until substrates have been properly prepared. Verify shaft and machine space are of correct size and within tolerances. Verify required landings and openings are of correct size and within tolerances. Verify electrical rough-in is at correct location.
- b) If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding. Beginning installation shall constitute acceptance of substrate conditions.

3.02 Preparation

- a) Clean surfaces thoroughly prior to installation.
- b) Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 Installation

- a) Install platform lifts in accordance with applicable regulatory requirements including ASME A17.1, ASME A18.1 and the manufacturer's instructions.
- b) Install system components and connect to building utilities.
- c) Accommodate equipment in space indicated.
- d) Startup equipment in accordance with manufacturer's instructions.
- e) Adjust for smooth operation.

3.04 Field Quality Control

- a) Perform tests in compliance with ASME A17.1 or A18.1 and as required by authorities having jurisdiction.
- b) Schedule tests with agencies and Architect, Owner, and Contractor present.

3.05 Protection

- a) Protect installed products until acceptance by the Owner.
- b) Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

DIVISION 27

SECTION 27 4116 – AUDIOVISUAL SYSTEMS

PART 1 GENERAL

1.01 REQUIREMENTS

The contractor shall review all other documents for additional requirements and information that apply to the work. If conflicts between this Section and/or the General Requirements and General Conditions occur, the more stringent shall apply. Contractor shall deliver the complete Audiovisual System, including any design-build requirements of this Section and the following Drawings:

TA-001	Sheet Index and Notes
TA-101	Audio-Visual Floor Plan
TA-301	Audio-Visual Sections and Elevations
TA-701	Audio-Visual Coordination Details

1.02 PROJECT DESCRIPTION

- A. Auditorium
The sound reinforcement system will support both production and education functions.
1. Amplification of vocals and media played through the system
 2. Playback of recorded tracks from CD or other devices connected to the system

1.03 SCOPE OF WORK

- A. The Contractor shall provide a turn-key audiovisual system installation including, but not limited to, all cabling, loudspeakers, projection & display equipment, mounting hardware and electrical components including the necessary equipment, interconnections, transducers, labor, and services required to meet the functional requirement outlined in the design documents.
- B. The Contractor will be held responsible to have examined the site and premises and satisfied themselves as to existing conditions under which they will be obligated to operate in performing their part of the work, or that, which will in any manner affect the work under this contract.
- C. Permits: Obtain any necessary permits for the execution of this work in conformance with applicable union regulations, Local, State and Federal codes and regulations.
- D. All aesthetic issues are to be coordinated and approved by the Owner, Architect, and Design Consultant.
- E. Provide, size, and install all conduit and penetrations, wire raceways, back boxes, and cabling connecting system components, as required by the Audiovisual System, not installed by the General Contractor.
- F. Verify all conduit and penetrations, wire raceways, back boxes, mounting hardware to building structure, and cabling connecting system components, as required by the Audiovisual System and installed by the General Contractor/Electrical Contractor as part of the base building fit out. Notify Owner of any discrepancies that may exist between the Shell Contract Documents and existing conditions.
- G. Verify AC power requirements for each equipment location. Notify Owner of any discrepancies that may exist between Shell Contract Documents and existing conditions.

- H. Patch, repair, finish and paint any surfaces that are damaged or demolished for access during this work. Room finishes to be returned to initial condition.
- I. Coordinate the resolution of any audiovisual system issues including, but not limited to, architectural and structural items associated with the project.
- J. Coordinate with other trades to ensure that all required access and clearances to equipment and services are provided and maintained.
- K. Verify site conditions including dimensions and clearances. Coordinate and size the exact location of the equipment racks with the architectural drawings.
- L. Provide project Site Acceptance Testing (SAT) by equipment manufacturer for all devices that require programming. This applies to devices such as Audio DSPs, video switches and control processors that rely on a software application to program, adjust, route and process the audio, video or control system equipment. The AV contractor is to assist the manufacturer with project Site Acceptance Testing.
- M. Conduct preliminary testing and adjustment. Submit documentation required by this Specification. Participate in approval testing for acceptance by the Owner. Perform final adjustments as required to meet the Specifications.
- N. Deliver to the Owner bound "as-built" system documentation. Transfer all warranties and equipment guarantees to the Owner and provide a written description of system operation at the time of acceptance of the Work by the Architect/Owner.
- O. Provide system operation training as specified in Part 3 of this Section.

1.04 QUALITY ASSURANCE

- A. All materials must be newly manufactured current production models and conform to all applicable codes and the relevant standards listed below:
 - 1. American National Standards Institute (ANSI)
 - 2. Electronic Industries Alliance (EIA)
 - 3. Institute of Electrical and Electronic Engineers (IEEE)
- B. Experience: The Contractor shall specialize in the installation of audiovisual systems, have a minimum of five years of documented experience in the field of audiovisual system installation and be a manufacturer approved vendors for all the components installed.
- C. Supervision: Contractor shall designate a Project Manager and Foreman to oversee the installation work for the duration of the Work, to ensure that the system is installed in accordance with the Specification and Drawings.
 - 1. The Project Manager shall maintain adequate staff and be responsible for installing and testing the system on schedule.
 - 2. Project Manager and Foreman/Project Supervisor shall have at least five years of documented, recent, and similar project experience.
- D. The Owner reserves the right to make use of the system prior to the completion of the Work. Temporary use of the equipment shall not constitute an acceptance of the system or any part. The Owner shall not pay additional costs to the Contractor and the

commencement of the warranty period shall not begin for the system, or any device prior to the completion of the punch list and final acceptance of the system, by the Owner.

- E. Contractor shall promptly notify the Owner, in writing, of any site difficulties that may prevent proper coordination or timely completion of the Work. Failure to do so shall constitute acceptance of Work and indicate that the site is suitable in all ways for this Work, except for defects that may develop in the work of others after commencement of system installation.
- F. Insurance: Provide evidence of insurance for the full value of equipment and material located onsite. Insurance shall cover losses due to fire, theft and vandalism, until the final acceptance of the system, by the Owner. Maintain additional liability insurance to protect the supplier and/or Owner, Architect, Design Consultant against damage claims for personal injury, including death, which may arise during the performance of this work.
- G. The Lead Control System and Audio/Video Digital Processing Programmers in the office and in the field shall be certified as defined by the manufacturer of the equipment utilized.

1.05 REFERENCES

- A. All requirements of the latest published edition, unless otherwise noted, shall apply.
- B. National Electric Code (N.E.C.).
- C. National Electric Safety Code (N.E.S.C.).
- D. Davis, Don, Sound System Engineering, Second Edition, Howard W. Sams and Co., Indianapolis, Indiana, 1997.
- E. American National Standards Institute (A.N.S.I.).
- F. Electronics Industries Alliance (E.I.A.).
- G. Audio - Design and Installation, Giddings, Howard W. Sams, 1990.
- H. Society of Motion Picture and Television Engineers (S.M.P.T.E.).
- I. American Society for Testing Materials (A.S.T.M.).
- J. Dashboard for Controls (AVIXA).
- K. Advanced Dante Configuration, Audinate 2015
- L. AVB Systems (IEEE 802.1BA)
- M. Audio Coverage Uniformity (AVIXA A102.01)
- N. Projected Image System Contrast Ratio (AVIXA 2M)
- O. Cable Labeling for Audiovisual Systems (AVIXA F501.01)

1.06 SUBMITTALS

- A. The contractor shall comply with the General Requirements and General Conditions of this Specification.
- B. Bid Submittals: Contractor shall submit the following qualification documents with the bid proposal:
1. Firm description of the Contractor, and a copy of the Contractor's license, as well as a statement regarding the relationship of the License Holder to the Contractor.
 2. Provide a minimum of ten related projects, four of which must have been completed within the last 12 months.
 3. Résumé of Project Manager and onsite Foreman/Project Supervisor documenting related experience. Foreman/Project Supervisor must have completed at least two similar installations in the past 12 months. Indicate any certifications held by the Project Manager and onsite Foreman/Project Supervisor such as PMP/CTS-I or other.
 4. Project Manager and Foreman/Project Supervisor cannot be changed without approval of Owner.
 5. Submit a list of major equipment components, along with any deviations, to the system design and Specification. Indicate which products will not be purchased directly from the manufacturer.
 6. Submit a list including names, firm description, job foreman, copy of license and scope of work, for any subcontractors whose work would be part of this Contract.
 7. Submit a list of names for the lead installers who will be working on this project and indicate for each, if they are NSCA NICET/EST or ICIA CTS-Install, certified or registered.
- C. Construction Submittals
1. Provide shop drawings and record drawings using the following scales:
 - a. Plans - not less than 1/8" = 1'-0"
 - b. Details - not less than 1/4" = 1'-0"
 - c. Drawings must support black and white printing for field technicians and record drawings. Color is not an acceptable delineator for signal types.
 2. Before ordering equipment, submit catalog data sheets, neatly bound with title page, space for submittal stamps and tabbed dividers between sections. List all proposed equipment with reference to corresponding specification paragraph numbers or equipment title. Denote all approved substitutions. Data sheets may also be delivered in a single flattened PDF format file if physical delivery is not practical.
 3. Submit point-to-point wiring diagrams and typed wire lists identifying every connection. Include electronic devices such as switches, transformers and terminal blocks. Indicate location of all components. Identify cables by types, colors and wire numbers. Diagrams must be original documents, coordinated with other trades. Replication of any bid documents is not acceptable.
 4. Submit system plans showing all device locations.
 5. Submit reflected ceiling plans showing distributed loudspeaker layouts with wattage tap settings, projection systems, cameras and other ceiling mounted devices.
 6. Submit conduit riser diagrams showing connection of all devices along with types and quantities of cables to be used and cable identification tags.
 7. Submit rack layouts indicating the proposed arrangement of mounted equipment including junction boxes and locations of conduit penetrations.
 8. Submit fully dimensioned construction details of all panels, plates and other custom fabricated items or modifications (e.g., installation of audio/visual

equipment in lecterns). Include complete parts lists and as required, schematic diagrams.

9. Submit fully dimensioned construction details of all coordination items, such as panel or plate installation in casework or millwork as needed to complete the Work.
10. Submit a schedule of finishes indicating proposed materials and color selections for all exposed items subject to Architect's approval.
11. Submit samples of engraved labels, cable-marking system, faceplate etching/finishes and loudspeaker grilles.
12. Submit mounting and support details for distributed ceiling loudspeakers, video projectors and all other items mounted overhead, complete with parts lists and dimensions. Include a full plan view, front elevation and side elevation of each item, with corresponding support structure and mounting hardware. Verify load ratings of all hanging components including attachment hardware. A structural engineer registered in the State shall stamp details.
13. Submit a list showing coordination of selected frequencies for all wireless transmitters.
14. Submit an Excel list showing all equipment requiring data connections. At a minimum identify the following fields, Location, Description, MAC address, Jack number, IP Address, Subnet Mask, Gateway, DNS. Submit list with first three items completed for submittal review, include jack number as well if available. Include items on client LAN as well as AV LAN. Once approved, provide client LAN list to owner's networking group to obtain IP information. Maintain list throughout project and provide final list with as-built documents.
15. Before final control system program installation, submit interactive demonstrations of all control system touch panel pages as well as an electronic copy of the pages as required by Part 3 of this Section.
16. Submit a key schedule indicating key assignments and groupings for all equipment racks, drawers, and lecterns subject to Owner's approval.

- D. Acceptance Test Submittals: Prior to requesting the completion of the acceptance tests, submit Preliminary Test Report Information required in Part 3 of this Section.

1.07 PROJECT CLOSE OUT

A. General

1. Furnish one initial set of Project Close Out Documents including but not limited to manuals, record drawings along with the results of all source quality control tests, and field quality control tests specified in Part 3 of this Section, to the Design Consultant, for use during acceptance testing.
2. If 'as installed' documents are rejected, correct and resubmit in the manner specified.
3. One set of B size drawings showing the components and wiring in each individual rack shall be mounted in a plastic jacket to the rear door of the associated rack.
4. After approval of 'as installed' documents, submit sets of record drawings as follows:
 - a. One set of full-size prints
 - b. One set of reduced B size prints
 - c. One set of manuals
 - d. Four electronic submittals on CD-ROM/DVD disk(s).
5. At the time of contract closeout, submit sets of the system Operation Manual and the Maintenance Data Manual as follows:

- a. One set hardcopy for owner.
 - b. Four sets electronic on CD-ROM/DVD disk(s).
- B. Manuals
- 1. Neatly bind each manual with tabbed dividers between sections, include a title pages between sections, binder title covers and spines.
 - 2. Manuals shall be presented in 3 ring – D style binders.
 - 3. The Manuals shall be broken down into the following minimum sections:
 - 4. Operations Manual
 - a. Table of Contents
 - b. Typed description of each system including key features and operational concepts (e.g., remote control features, switching or routing functions, patch points, mixing and linking capabilities).
 - c. Setup diagrams and typed instructions for use in typical situations as directed by the Design Consultant.
 - d. Single-line block diagrams showing all major system components.
 - e. One set of B size drawings showing the components and wiring in each individual rack.
 - f. Manufacturer's operation manuals for equipment intended for operation by system users (e.g., source equipment, communication equipment, etc.).
 - g. Manual must be an original document created by the Contractor. Replication of any bid documents is not acceptable.
 - 5. Maintenance Data Manual
 - a. Table of Contents
 - b. Company name, address, telephone number and contact name for system service or maintenance.
 - c. Listing of all equipment and materials with names of manufacturers and model numbers or part numbers.
 - d. Catalog data sheets displaying manufacturers' names, addresses and telephone numbers.
 - e. Product manufacturer's warranties and a typed, one-year system warranty, explicitly covering all materials and labor.
 - f. Manufacturer's service manuals for all major equipment items.
 - g. Test documentation showing results of source quality control tests, field quality control tests, acceptance testing and equalization.
 - h. Document final settings for all non-user devices and controls after completion of acceptance testing and equalization, including raw and equalized house curves.
 - i. Document the physical position of settings as well as input and output signal levels as required by Part 3 of this Section.
 - j. Provide a recommended preventative maintenance schedule for reference to the applicable pages in the manufacturer's maintenance manuals. Where the manufacturer provides inadequate information, develop and provide the information necessary for proper maintenance.
- C. Software
- 1. A properly licensed working copy of any and all software required to operate or configure the systems specified herein, shall be a part of the system supplied, including all software, firmware and hardware required for configuration, adjustment, diagnosis, and repair.
 - 2. All software shall be fully documented, and that documentation included.
 - 3. Software shall be included in its 'installable' state on industry standard, CD-ROM/DVD, or other appropriate format from the manufacturer. Where possible a

- single master CD-ROM/DVD should be provided. If files are too large, break segments into logical sections, CD-ROM/DVD disk images are unacceptable.
4. Where any elements of the software are based on user modifiable source code, both the source code and the compiler shall be provided and documented as stated herein.
 - a. The source code is to be licensed to the Owner for this project; the contractor maintains the copyright of the source code.
 - b. The Owner has the right to modify the source code.
 - c. If the source code is modified the Owner takes full responsibility for the effects caused by the modification to the source code.
- D. Electronic Submittal: In addition to the above listed hard copy submittals, submit all files necessary to produce the above submittals as follows:
1. Submit the following on CD-ROM/DVD media.
 - a. Files use long windows names file structure.
 - b. A Disk Master File List in text format shall be placed on the CD-ROM/DVD with a short description of files on that disk.
 2. Drawings shall be in AutoCAD r2000 or later drawing (.DWG) format. Drawing Exchange File Format (.DXF) shall not be acceptable. All XREFs, fonts, and other drawing parts necessary to the drawings shall be included.
 3. Documents and spreadsheets shall be in Microsoft Office .doc/.xlsx format.
 4. All files to be converted to searchable acrobat *.PDF files in addition to the native drawing, documents and spreadsheets formats.
 5. Manufacturers' service manuals provided by the Manufacturer to the Contractor or documents that are, similarly, not otherwise available to the Contractor in electronic format shall be excluded from this requirement.
 6. Provide all control system source files and compilers on the same CD-ROM/DVD media. This should include, but is not limited to, touch panel files, IR code files, DSP configuration files, web-based touch panel pages, or any other files or applications necessary to completely reinstall and configure all system components back to their operable state.
- E. Keys: Submit five sets of all keys required for access to and operation of the systems.

1.08 GUARANTEES AND WARRANTIES

- A. Transfer all manufacturer and subcontractor's warranties to the Owner at the completion of all Work.
- B. Guarantee all installation work to be free of faulty system-wide workmanship. Guarantee all new components purchased under this Contract and workmanship to be free from defects for a period of 12 months from the final date of acceptance, by the Owner, including solid-state devices.
- C. Guarantee a response window of 2 hours for call-back phone support upon notification from the owner of a system operational issue during the warranty period.
- D. Guarantee the on-site replacement of faulty materials and workmanship within 24 hours of notification at no cost to the Owner if failure occurs during the warranty period. Provide loaner equipment as required to keep the system operational if the system cannot be repaired within 24 hours of notification.
- E. Register warranty in the Owner's name for any product with a manufacturer's warranty of more than one year.

1.09 OWNER FURNISHED EQUIPMENT

- A. Certain equipment may be identified as Owner Furnished Equipment (OFE). This OFE may presently be part of the Owner's systems or will be provided by the Owner and will be delivered to the Contractor's off-site construction facility, delivered to the Contractor's on-site secured storage area or installed on site by others, as appropriate, for incorporation into the system.
- B. Clean and inspect the OFE and notify the Owner in writing of damage or defect and the extent of repair and/or adjustment required to bring the OFE to original specification. Service OFE only as directed by the Owner under the arrangements of a separate contract.
- C. Incorporate into the system as if provided new, excepting warranty coverage.

1.10 MAINTENANCE

With the bid, submit an annually renewable service and maintenance proposal for a total of two additional years meeting the same conditions for service and repair as required for the initial one-year warranty. If accepted, the service and maintenance proposal shall commence upon conclusion of the one-year system warranty.

PART 2 PRODUCTS

2.01 GENERAL

- A. Components are to operate on standard US voltage outlets. Rack mounted equipment is to be mounted in a standard EIA 19-inch wide rack. The components listed in the equipment schedule are the basis of the audiovisual system design and represent the minimum standards for each of the components. All of the properties of each component or system should be considered listed in full.
- B. Equipment, excepting the Owner Furnished Equipment (OFE), and materials shall be new. The latest version at time of delivery and shall conform to applicable UL, CSA, or ANSI provisions. Take care during installation to prevent scratches, dents, chips, etc.; equipment with significant or disfiguring cosmetic flaws will be rejected.

2.02 CABLE

- A. General
 1. Conductor jackets shall be color-coded to enable consistent polarity.
 2. Use plenum rated cable where required by code.
 3. Cables noted are referenced for minimum level of quality.
 4. Use outdoor or wet rated cables where required. Size may vary depending on distance requirements.
 5. Acceptable Manufacturers: West Penn, Canare, Belden, Extron, Covid, Gepco, and Liberty.
- B. Audio Cables
 1. Microphone: Shielded, stranded 20 AWG, twisted pair cable (West Penn 292)
 2. Line Level Cable: Shielded, stranded 20 AWG, twisted pair cable (West Penn 292)

3. Program Loudspeaker Cable: Stranded, twisted pair 12 AWG cable (West Penn 227)
 4. Distributed Loudspeaker Cable: Stranded, twisted pair 16 AWG cable (West Penn 225)
 5. UHF Wireless Antenna Cable: 50 ohms, (RG-58) coaxial cable (RG-58) (Belden 8259)
 6. Digital Audio Transport Cable: 4 pair Category 6 Solid Twisted Pair cable, 24 AWG. (West Penn 4246)
- C. Video Cables
1. MATV Drop Cable: 75-ohm RG 6U co-axial cable (West Penn 256350)
 2. MATV Trunk Cable: 75-ohm RG 11U co-axial cable (West Penn 25811)
 3. High Resolution Cable DVI (Single-link): 100-ohm multiple conductor cable in one jacket (Extron DVID SL Pro Series)
 4. High Resolution Cable DVI (Dual-link): 100-ohm multiple conductor cable in one jacket (Extron DVID DL Pro Series)
 5. High Resolution Cable HDMI: 100-ohm multiple conductor cable in one jacket, 18Gbps data rate (Extron HDMI Pro/Ultra Series)
 6. Digital Media Transport Cable: 4 pair Category 6A (S)F/UTP cable, 24 AWG, 500MHz bandwidth. (Belden 10Gx series/Extron XTP DTP-24)
 7. HDMI Bulk Cable: 100-ohm multiple conductor cable in one jacket, 28 AWG. (Covid LUX-HD-28RD)
 8. HD/3G/6G-SDI Cable: Low loss serial digital co-axial cable RG-6/RG-11 (Belden 1695A/7732A)
- D. Data / Control Cables
1. Control System Cable: 2 pair (18 AWG pair and 22 AWG pair) (Liberty AXLINK)
 2. Data cable: 4 pair Category 6A Solid Twisted Pair cable, 24 AWG. (West Penn 4246A)
 3. RS-485 cable: 7-conductor, 22 AWG cable. (Belden 9430)
 4. RS-232 cable: 7-conductor, 22 AWG cable. (Belden 9430)
 5. 5 pair, Stranded Twisted Pair Shielded, 24 AWG cable. (Belden 9807)
 6. 9 pair, Stranded Twisted Pair Shielded, 24 AWG cable. (Belden 9809)
 7. 12 pair, Stranded Twisted Pair Shielded, 24 AWG cable. (Belden 9812)
 8. USB Revision 2.0 Compliant Bulk Cable: Two 24 AWG power conductors plus one 28 AWG twisted pair for data lines (L-com CBL-USB2-2824)
- E. Multimode Optical Fiber Cable
1. All multimode optical fiber cable must be OM4 rated, and strands must have an outside cladding diameter of 125 micrometers and an inside core diameter of 50 micrometers with a dual operational wavelength of 850 nanometers and 1300 nanometers.
 2. All multimode optical fiber cables shall be OM4 OFNP-rated, and all cable jackets shall have the OM4 standard aqua coloring, that is constructed with a dielectric armor for protection, unless otherwise noted.
 3. Multimode Optical Fiber Cable Manufacturer and System Description:
 - a. Corning MIC Armored Cable System
 - b. CommScope Cable System
 - c. BerkTek Cable System
- F. Single-mode Optical Fiber Cable
1. All single-mode optical fiber cable must have industry standard outside cladding diameter of 125 micrometers and an inside core diameter between 8 and 9 micrometers with a dual operational wavelength of 1310 nanometers and 1550

- nanometers.
- 2. All single-mode optical fiber cable shall be OS2 OFNP-rated, have the industry standard yellow jacket, and be constructed with a dielectric armor for protection, unless otherwise noted.
- 3. Single-mode Optical Cable Manufacturer and System Description:
 - a. Corning MIC Armored Cable System
 - b. CommScope Cable System
 - c. BerkTek Cable System
- G. Category-6 Copper Patch Cords
 - 1. All patch cords are to be shipped pre-assembled, verified and tested from the factory in sealed packages.
 - 2. All copper patch cords shall have stranded conductors that match the TIA/EIA-568-B performance characteristics of the solid conductor category-6 cable specified.
- H. Multi-mode Optical Fiber Patch Cords
 - 1. All multi-mode optical fiber patch cords must be LC type cords or combinations as required.
 - 2. All fiber patch cords shall match the performance characteristics of the premise fiber cable specified.

2.03 HARDWARE

- A. Jacks, Connectors, and Adapters
 - 1. Provide panel mounted isolated ground jacks.
 - 2. Contacts are to be silver-plated, chromate dipped, phosphor bronze, or brass.
 - 3. Install connector and jacks per manufacturer's directions.
 - 4. Panel mounted jacks are to be recessed.
 - 5. Acceptable Manufacturers: Canare, Switchcraft, Neutrik, Amphenol, Pomona, Extron, Covid, L-com, or Liberty.
 - 6. HDMI Type-A connector: 28 AWG DIY connector/clamshell for round cable (Covid LUX-DIY-28DS10).
 - 7. USB Type-A connector with hood: gold-plated solder contacts, nickel-plated steel shell, and UL94V-0 rated housing (L-com USBCN2.0-A, USBHD2.0-A).
 - 8. USB Type-B connector with hood: gold-plated solder contacts, nickel-plated steel shell, and UL94V-0 rated housing (L-com USBCN2.0-B, USBHD2.0-B, USB-C).
 - 9. Category 6a Shielded Keystone Style Jacks and plugs
- B. Audiovisual System Face Plates: Provide metallic cover plates at all control, switching and jack locations. Etch and ink all system faceplates to indicate function, input/output number, etc. Minimum engraved letter height 1/8 inch. Coordinate finishes with the Owner. Center lettering vertically over or horizontally to the right of the appropriate connector. Connector mounting shall allow sufficient finger clearance for connector insertion and removal without interference from adjacent connectors.
- C. Electronic Component Face Plate Labels: Provide permanent labels as specified and shown on detail drawings. Engraved plastic labels fastened with epoxy are acceptable. Dymo type labels are not acceptable.
- D. Provide a neatly labeled floor plan with as-built locations of all audiovisual jacks. Locate floor plan in front cover of the equipment rack behind a clear Plexiglass cover. Minimum size of chart: 8 1/2 inches x 11 inches.

- E. Provide system functional description and operating procedures for each system configuration. Place behind clear Plexiglass near each of the equipment racks. Include basic operating procedures and troubleshooting steps.
- F. Provide a 1-rack unit panel with Consultant's name and web address and Contractor's name, address and phone number in the main equipment rack of each system. Panel shall state: Designed by "Consultant" Installed by "Contractor".

2.04 RACK SYSTEMS

- A. All audiovisual racks on the project are to be welded and from one manufacturer.
- B. Racks are to be rated for the Uniform Building Code Seismic zone 4.
- C. Racks and rack accessories are to be black in color.
- D. Rack plates: All custom rack plates are to be fabricated from 16 Gauge Aluminum with flange returns. All rack blanks and vents are to have flanges.
- E. Racks are to have moveable rear rack rails. All rack rails are to be tapped for 10-32 machine screws.
- F. Racks are to have a modular top option with different knockouts and openings as required by the design documents.
- G. Front and rear vented locking doors are required for all racks not directly secured by casework or other architectural door system.
- H. Rack slides shall be provided for all equipment requiring access to side or top panels for routine adjustment or cleaning.
- I. Provide security covers on non-user operated equipment having front panel controls.
- J. Install all rack mounted equipment with black oxide finish 10-32 oval head machine screws with black plastic cup washers protecting equipment panel.

OR

- K. Install all rack mounted equipment with black oxide finish 10-32 square post security machine screws with black plastic cup washers protecting equipment panel.

2.05 RACK POWER

- A. Provide switched and constant power strips as specified, divided among the following categories.
 - 1. Provide constant power outlets for all equipment that requires it. This includes CATV tuners, digital audio/video processors, streaming transmitters, network switches, and other devices that require a boot process prior to use.
 - a. Rack systems will each be provided with vertical power strips for constant power distribution. Strips containing signal processing equipment will be run to rack UPS systems specified rather than building power.
 - 2. The remaining outlets are to provide switched power operated by the control system.

- a. Multiple amplifiers on the same circuit shall power up with a minimum of a 2 second delay between each.
- b. The system is to be free of measurable power transient noise when powering on or off.
3. Equipment with redundant power supplies will have independent building power circuits for each supply.

PART 3 EXECUTION

3.01 GENERAL

The following is required for acceptance of the audiovisual system by the Owner:

- A. Install complete and functioning audiovisual system.
- B. Label equipment and cables corresponding to functional diagram.
- C. Conduct adjustments and preliminary testing.
- D. Report results of Site Acceptance Testing (SAT) and preliminary testing along with system documentation.
- E. Participate in acceptance test and deliver final system and documentation.
- F. Conduct any adjustments or re-testing required to meet the performance specifications.
- G. Provide training to an individual(s) designated by the Owner/Architect/Consultant.

3.02 AUDIOVISUAL OPERATIONAL REQUIREMENTS

Care shall be taken to eliminate electro-magnetic radio frequency and electro-static interference; the system shall be free of audible hum, rattles, buzzing sounds, distortion and visible hum bars or distortion.

3.03 CABLE WIRING STANDARDS

- A. General
 1. Provide proper cable management and support
 - a. Install cables in an organized manner.
 - b. Dress cables neatly.
 - c. Route cables parallel to the product in which they are landed. This should result in cables that are routed plumb and level and change directions in 90° increments.
 - d. Secure cables to wire management products using reusable hook and loop type fasteners. Secure fasteners to the wire management product then wrap fastener around the cable bundle. Provide sufficient length of fastener wrap to extend around the final cable bundle side with at least 75 percent of the bundle circumference overlapped.
 - e. Do not use nylon cable ties or other fasteners that pinch and stress cables. Do not use ties that require tools to remove.
 - f. Do not bend cables to a radius that is less than 8-times the cable diameter, nor less than the cable manufacturer's recommended minimum bend radius.

- B. Equipment Racks
1. Provide vertical and horizontal wire management products to secure and manage cables.
 2. Provide horizontal wire support bars. Secure bars in such locations as to achieve a professional balance between cable support, equipment accessibility, service, and appearance.
 3. Install service loops. The length of service loops for each device shall be:
 - a. Long enough that the cable may be relocated to a variety of other compatible ports on the product.
 - b. Long enough to be moved aside without becoming unplugged, being damaged, or stressed while attempting to access another nearby connection.
 - c. Long enough that no stress is applied to the cable itself, a conductor, another cable, or connectors on the equipment.
 - d. Short enough not to hinder the serviceability of an adjacent device.
 4. Provide security covers on non-user operated equipment having front panel controls. Install security covers at the conclusion of Acceptance Testing. Rack slides shall be provided for all equipment requiring access to side or top panels for routine adjustment or cleaning.
 5. Provide rack slides and mounts equal to those of the original manufacturer for the OFE requiring rack mounting. Where no same manufacturer mount is available, Contractor shall supply custom mounts as manufactured by Middle Atlantic Products Inc.

3.04 AUDIO DSP (Digital Signal Processing) PROGRAMMING

- A. The Contractor will ensure that:
1. Each DSP block has a description of its function.
 2. Each DSP block has fully labeled endpoint nodes
 3. Each DSP block with control dialogs has each channel labeled in a clear and concise manner to allow for simple signal identification.
- B. The values in the audio DSP box shall be set to allow the performance requirements outlined in this document to be met.
- C. Microphone mute shall be at DSP, not at microphone. If wireless microphones are muted at the transmitter the control system will mute the appropriate channel in the DSP. Un-muting the transmitter will un-mute the associated channel as well.
- D. Proper gain structure practices shall be used. Signals will be brought to optimum levels upon entry to the DSP, and care will be taken to minimize level changes within the DSP signal path.

3.06 PERFORMANCE SPECIFICATIONS

- A. The sound pressure level spectrum from the program speaker system, in each 1/3 octave band shall be ± 3 dB (side to side) from 100 Hz to 12 kHz with 3 dB per octave roll off above 12 kHz and below 100 Hz. Total acoustical harmonic distortion shall not exceed 2% at sound levels of 90 dBC (1 kHz reference tone) at four (4) feet above the finish floor in the middle of the room.

- B. The sound pressure level spectrum from the distributed speaker system, in each 1/3 octave band shall be ± 3 dB from 125 Hz to 10 kHz with 6 dB per octave roll off above 10 kHz and below 125 Hz. Total acoustical harmonic distortion shall not exceed 2% at sound levels of 85 dBC (1 kHz reference tone) at four feet above the finish floor in the middle of the room.
- C. The gain structure for all audio system components (mixer input to amplifier output) shall be adjusted to achieve the highest signal-to-noise ratio, 75 dB from 50 Hz to 15 kHz minimum.
- D. The audio frequency response of the electronics system with equalizers bypassed shall vary less than ± 1 dB from 50 Hz to 12 kHz.
- E. The electronic system audio distortion shall be less than 0.5% at 1 kHz at the equipment's rated input signal level.

3.07 CONTRACTOR'S TESTING AND ADJUSTMENTS

- A. Furnish all equipment and personnel including manufacturer's representatives to perform manufacturer's Site Acceptance Test (SAT) and to conduct these tests in accordance with the performance specification requirements.
- B. All timing and gain measurements shall be made while the operator controls of the device under test are set in the center-of-travel, in bypass, nulled out or at the manufacturer's detent position. Any adjustments should be made by modification of cable length or internal adjustments.
- C. Audio Testing
 1. Before connecting high impedance (distributed) loudspeaker lines to the power amplifiers, measure and record the impedance curves of all loudspeaker circuits, using a sweep test or impedance bridge for at least six frequencies from 125 Hz through 8,000 Hz.
 2. Before connecting low impedance (8-Ohm) loudspeaker lines to the power amplifiers, measure and record the impedance of all loudspeaker circuits, Report the DC resistance reading.
 3. Test all low-level audio cables and connections for continuity and ground faults and correct polarity.
 4. Apply a sinewave sweep signal to each loudspeaker system, sweeping from 50 Hz to 5,000 Hz at a sound pressure level, which is 10 dB below the loudspeakers rated electrical input power. Listen for rattles or objectionable noise and correct if apparent.
 5. Check for proper polarity of loudspeakers by applying music program or pink noise to each system and walking through the transition areas of coverage from one loudspeaker to the next. Transition should be smooth with no apparent shifting of source, back and forth from one loudspeaker to the next.
 6. Coverage Uniformity: Scan the areas served by the system and record sound pressure level in 1/3-octave bands. Perform any necessary adjustments to loudspeaker orientations as required to achieve the specified uniformity.
 7. Adjust all system gain controls, both physical and virtual in software, for optimum signal-to-noise ratio. After all adjustments required to meet the performance Specification requirements are made, measure and report the resulting system electrical signal-to-noise ratio at the amplifier outputs from 200 Hz to 20 kHz in 1/3 octave bands referenced to the voltage required to achieve 85 dBC in the center of the room (1 kHz reference tone) at 4-feet above the finish floor.

8. Measure the sound pressure level using a calibrated type 1 precision sound level meter as defined by ANSI S1.4. Measure using the slow time Constant. Report the "raw house curve" with the equalizer controls set to "0." Adjust all gain controls and equalizers to provide the 1/3-octave band sound levels specified.
- D. Manufacturer's Site Acceptance Testing (SAT)
 1. Testing of every channel of each I/O module with calibrated equipment.
 2. Verification of electrical characteristics, depending on the I/O module type and specifications (voltage/current levels, signal-to-noise ratio, etc.)

3.08 DATA CABLE TESTING

- A. The Contractor shall be responsible for all testing and performance parameters required by this section and all applicable TIA/EIA-568-C series standards.
- B. Furnish all equipment and personnel to conduct these tests in accordance with the performance section requirements.
- C. Prepare Test Reports Manual as described in this section documenting the results of these tests and readings.
- D. Test results must be submitted to the Owner as part of the project documentation prior to acceptance as required by this section.
- E. Testing of copper wiring shall be performed prior to system cutover (100 percent of the horizontal and riser wiring pairs shall be tested for opens, shorts, polarity reversals, transposition and presence of AC voltage).
- F. Any pairs not meeting the requirements of the standards shall be brought into compliance by the Contractor, at no charge to the Owner.
- G. Category-6A data cable test procedures must comply with and meet the following standards:
 1. TIA/EIA-568-C
 2. NEMA Low Loss extended frequency requirements
 3. Any additional Owner standards attached to general conditions
- H. Complete four pair testing must be performed with full sweep frequency measurements from 1 MHz to 500 MHz, and the Power Sum Far End Crosstalk test. This test will establish each channel's installed performance measurement. This is not a certification or compliance test, rather a measure of available headroom. Any copper cable failing to meet the above-indicated standards must be removed and replaced, at no cost to the Owner, with copper cable that proves in testing to meet the standards.
- I. Test all Category-6A cables with a third party approved tester noted above. The testing device must be provided by the Contractor and approved by the Owner's representative prior to use. It is the responsibility of the Contractor to get written authorization from the Owner's representative to commence testing with said device.
- J. All cables are to be tested for:
 1. Continuity
 2. Polarity
 3. Insertion Loss
 4. Length

- K. Test procedure - Category-6A cables
1. All CAT-6A cables shall comply, must be tested, and meet the following TIA/EIA-568-C standards:
 - a. Insertion Loss
 - b. Near End Cross talk (NEXT)
 - c. Power Sum Near-End Cross talk (PSNEXT)
 - d. Attenuation to Crosstalk Ratio – Near End (ACRN)
 - e. Power Sum Attenuation to Crosstalk Ratio – Near End (PSACR-N)
 - f. Far End Crosstalk (FEXT)
 - g. Power Sum Attenuation to Crosstalk Ratio – Far End (PSACRF)
 - h. Return Loss (RL)
 - i. Wire Map
 - j. Propagation Delay
 - k. Delay Skew
 - l. Length
- L. Test procedure - fiber data cabling:
1. All fiber testing shall be performed on all fibers in the completed end-to-end system. There shall be no splices. Testing shall consist of a bi-directional end-to-end power meter test performed per TIA/EIA-568-C. The Contractor shall test all fiber cable prior to the installation of the cable. The Contractor shall assume all liability for the replacement of the cable should it be found defective at a later date.
 2. Loss budget:
 - a. Fiber links shall have a maximum loss of: (allowable cable loss per km) (km of fiber in link) + (.4dB) (number of connectors) = maximum allowable loss.
 - b. A mated connector-to-connector interface is defined as a single connector for the purpose of this section.
 - c. Loss numbers for the installed link shall be calculated by taking the sum of the bi-directional measurements and dividing that sum by two.
 3. Any link not meeting the requirements of the standard shall be brought into compliance by the Contractor, at no charge to the Owner.
 4. Optical fiber splices, fusion or mechanical, shall not exceed a maximum optical attenuation of 0.3dB when measured in accordance with ANSI/TIA/EIA--455-34, Method A (factory testing) or ANSI/TIA/EIA--455-59 (field testing).
 5. The testing of all Fiber optic cables must include tests using an Optical Time Domain Reflectometer (OTDR) or other Owner and Owner representative-approved test equipment. Documentation of the signature trace of the cable must include each of the following:
 - a. Attenuation per kilometer
 - b. Total length of each strand
 - c. The length of the longest cable run from each closet must be recorded and entered into the projects cabling database
 6. The test results must include the loss generated by each connector. Loss should be stated in dB. No fiber optic link will be accepted with a loss greater than 2dB.
 7. Insertion Loss testing must be done using handheld units for the source and meter. Acceptance tests for all fiber strands shall include attenuation, attenuation uniformity, and end-to-end integrity. The Contractor is to ensure that losses are within budget levels. These tests shall be accomplished and documented using loss sets at the desired wavelength of 1300 and 850 NM. The loss test should be performed after all splicing, connectorization and interconnection has been

completed. Loss tests should be zeroed using the test lead to be used making the measurements.

- M. RF/CATV Testing:
1. Signal strength at each outlet and each channel shall be a minimum of 6dBmV (2000 microvolts across 75 ohms) and a maximum of 15dBmV (5600 microvolts across 75 ohms).
 2. The system shall be fully tested and balanced by a qualified technician prior to final acceptance. Make all final adjustments to the system to the satisfaction of the Owner.

3.09 ACCEPTANCE TESTS

- A. Provide a STATEMENT OF COMPLETION, certifying that the system is installed and is ready for acceptance testing by the Design Consultant.
- B. Schedule a time for the Design Consultant to perform system acceptance testing and adjustment with at least 14 days advance notice.
- C. Qualification for Acceptance: Subsequent to completing preliminary testing, Contractor shall furnish the Owner/Design Consultant with copies of As Built documentation as required in this Specification.
- D. Furnish a technician who is familiar with the system to assist the Design Consultant during the acceptance testing and equalization for the duration it takes to complete the adjustments (regular time or overtime as required). A minimum of 24 hours as required to complete the adjustments.
- E. Acceptance Test: The Owner and Design Consultant shall be present during the acceptance testing and require the assistance and cooperation of the Contractor.
1. Each major component shall be demonstrated to function.
 2. Measurements: Electrical, optical and acoustical measurements may be performed at the discretion of the Owner and/or their representatives. The Design Consultant will supply acoustical measuring equipment. Such measurements may include sound pressure levels, uniformity of coverage, distortion, or other pertinent characteristics. The contractor shall provide equipment for performing any necessary electrical tests or adjustments.
 3. Viewing and listening tests may include subjective tests by observers at any location in the facility.
 4. Operating tests may include use of any individual or combination of systems provided and from any control location.
 5. Each cable may be inspected for proper termination.
 6. Under the direction of the Design Consultant, adjust signal levels and loudspeaker aiming, as required, to achieve the uniform sound distribution required by this Specification.
- F. Such tests may be performed on any piece of equipment or system. If any test shows the equipment or system is defective or does not comply with the Specifications, Contractor shall perform any remedies, at their expense, and pay the subsequent expenses of any re-testing required.
- G. The contractor shall provide a final report, which will document the final equipment settings and adjusted levels and values.

- H. If the system does not meet criteria or if additional trips to the JOB SITE for testing or adjustment are required, the Contractor shall reimburse the Owner for all expenses and professional time encountered by the Design Consultant/Architect.

3.10 OWNER PERSONNEL TRAINING

- A. As part of Work of this Section, provide a total of 16 hours of on-the-job training for personnel, designated by the Owner for instruction, in the proper operation and maintenance of the systems. This training shall take place after the installation is operational but before the acceptance testing, in four (4) two-hour blocks.
- B. The contractor shall record two (2) end user training sessions and provide a digital hard copy on DVD disc as well as mpg4 format to the owner and design consultant.
- C. Provide an additional eight hours of training in a minimum of two-hour blocks during the first year after the system has been accepted. These training sessions are at the request of the owner.
- D. Provide one initial set of manuals for the system as described in this specification at the time of training for review and comment by the owner's personnel.

PART 4 BIDDING INSTRUCTIONS

4.01 GENERAL

- A. This section provides the bid format for the project's audiovisual system. This bid form is to be completed in its entirety. Failure to provide the information required by this document may be considered grounds for immediate disqualification.
- B. The installation of the audiovisual system is based on the attached design documents that describe the design developed by Thorburn Associates.
- C. All equipment substitutions must be equal to or better fully functional replacements of the specified items. This includes items such as rack mounting requirements, software operating requirements, functional features, maintenance features and warranty length. Any substitutions must be approved in advance by the Designer.

4.02 BID FORM

Provide the following documentation with your bid:

- A. Refer to bid submittal section 1.06 B for bid submittal requirements. Attach all required information.
- B. Provide a schedule indicating the number of workdays to install the system after each major sign-off by the Owner (i.e., after the bid is awarded, how many days to submit shop drawings, how many days after approval of shop drawings prior to construction, etc.) through the end of the project. Schedule shall be broken down as required by bidding firm's policies.

- C. Provide a copy of your standard contract for materials and installation services.
- D. A statement indicating all equipment is readily available. If not, provide a recommended solution as an alternative.
- E. Provide a bid for installing a complete and operational system. "Complete and operational" is defined as tested and adjusted per design documents.
- F. Complete bid form information is called out in parts of this specification.
- G. Return one additional courtesy copy of the completed bid form and all required documentation to Thorburn Associates, 2500 Gateway Centre Blvd, Suite 800, Morrisville, NC 27560.

PART 5 – MAJOR EQUIPMENT LIST

5.01 GENERAL

- A. The following items are the owner's preferred items. Any proposed changes need to be identified during the bidding period.
- B. It is the contractor's responsibility for all additional design work to show that the proposed change provides the same functionality and quality as the owner's preferred items.

5.02 BREAKDOWN

- A. Provide Unit Cost for each item listed below.
- B. Provide a list of other equipment and hardware required for a complete working system.
- C. Provide Total Line Cost for each item listed below based on quantity.
- D. Provide the following line item and unit costs:
 - 1. Total Equipment Cost
 - 2. Engineering
 - a. Lump Sum
 - b. Hourly Rate
 - 3. Shop Labor
 - a. Lump Sum
 - b. Hourly Rate
 - 4. Field Labor
 - a. Lump Sum
 - b. Hourly Rate
 - 5. Training
 - 6. Manuals
 - 7. Shipping
 - 8. Taxes
 - 9. Overhead
 - 10. Profit
 - 11. Total Installed Cost

5.03 MAJOR EQUIPMENT COMPONENT LIST

- A. The following list describes the basis of design for the project. Not all accessories and small items are listed.

Auditorium

<u>Quantity</u>	<u>Description</u>	<u>Manufacture</u>	<u>Model</u>	<u>Accessories</u>
1	Wall Mounted Equipment Rack	Middle Atlantic	EWB-16-22SD	2-RU Locking Drawer, 1-RU Blanks, Rear Rack Rails, Lacing Bars
1	Digital Mixing Console	Soundcraft	UI16	9.7" Apple iPad with Wi-Fi Connection
1	Power Amplifier	Crown	CDi DriveCore 4 600	
2	Loudspeaker [SP-1]	JBL Professional	CBT70J-1 + CBT 70JE-1	MTC-CBT-FM2, NL2 Speak-On Connectors
1	Subwoofer [SP-2]	JBL Professional	ASB6112	Forged M10 Eyebolts
2	Stage Monitors [SP-3]	JBL Professional	PRX412M	50-Foot Speak-On to Speak-On Cables (Qty: 2)
1	Dual Channel Wireless Microphone System [WRLS 2]	Shure	SLXD24D/B58	6-Foot XLR-F to XLR-M Microphone Cables (Qty 2)
1	Media Player [MDP]	Denon Professional	DN-700CB	6-Foot XLR-F to XLR-M Microphone Cables (Qty: 2)
1	Power Conditioner	Furman	PL-8C	
1	Assisted Listening System [ALS]	Listen Tech	LS 53-216	
1	Wall Plates	Extron	VCS 150	With rack mount kit
5	Microphone Stands	Atlas IED	MS-20E	
3	Choir Microphones	Audix	MicroBoom MB8455HC	
3	Microphone Cables	Rapco or other	25-Foot Microphone Cables	

END OF SECTION 274116

APPENDIX A



Asbestos Abatement Specification
CC Spaulding Elementary School - Auditorium
Durham, North Carolina
S&ME Project No. 22050425

PREPARED FOR:

Bute PLLC
P.O. Box 2833
Durham, NC 27715

PREPARED BY:

S&ME, Inc.
3201 Spring Forest Road
Raleigh, NC 27616

December 6, 2023



December 6, 2023

Bute PLLC
P.O. Box 2833
Durham, NC 27715

Attention: Mr. Lindsey Bute, Owner

Reference: **Asbestos Abatement Specification**
CC Spaulding Elementary School - Auditorium
Durham, North Carolina 28604
S&ME Project No. 22050425

Dear Mr. Bute:

S&ME, Inc. (S&ME) is pleased to provide the enclosed asbestos abatement specification for the referenced location. Our services were provided in general accordance with S&ME Proposal No. 22050425, Revision 01, dated September 1, 2023. The specification is based upon information contained in the Asbestos Hazard Emergency Response Act (AHERA) Management Plan for CC Spaulding Elementary School, and additional pre-abatement sampling performed by S&ME on October 6 and 25, 2023.

This specification is provided for the sole use of Bute PLLC, Durham Public Schools, and the asbestos abatement contractor chosen to perform the work. Use of this report by any other parties will be at such party's sole risk and S&ME disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the assessment and of the specific areas referenced.

S&ME appreciates this opportunity to provide our services to you. Please call if you have questions concerning this report or any of our services.

Sincerely,

S&ME, Inc.

Handwritten signature of Josephine Martin in cursive.

Josephine Martin
Project Scientist I
NC Project Designer No. 40509

Handwritten signature of Janet K. Phillips in cursive.

Janet K. Phillips
Senior Industrial Hygienist
NC Project Designer No. 40324

Senior Review by Tom Raymond, PE



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Appendices

Appendix I – Schedule of ACM

Appendix II – Specification Figure

Appendix III – Pre-Abatement Assessment Report – October 2023

Appendix IV – Asbestos Credentials

Appendix V – Work Plan for Installation of Metal Hangars



1 Background

The scope of work for CC Spaulding Elementary School Auditorium includes the removal of floor mounted seating and carpeting, the friable removal of asbestos containing floor tile and mastic and the potential disturbance of lead-containing paint on the walls of the auditorium. The work shall be performed in a full negative pressure enclosure. The table below depicts the list of Asbestos Containing Materials (ACMs).

SUMMARY OF ACM

HA	Material Description	Location ^a	Category	Approximate Quantity ^b
AB	Floor Tile, 9" x 9", wine color	Auditorium floor	Category I Friable	2,000 SF
AF	Floor tile, 9"x9" light gray streaked	Auditorium floor	Category I Friable	2,000 SF
H	Mastic Under Floor Tile 3% <i>Chrysotile</i>	South Corner Floor under Chair in Auditorium	Category I Non-Friable	4,000 SF

HA = Homogeneous Area SF = Square feet LF = Linear feet CF = Cubic Feet

^aRefer to Appendix I for specific sample locations in the *Pre-Abatement Assessment Report*, prepared by S&ME, dated November 10, 2023.

^b**Quantities are approximate and should be field verified.**

The Abatement Contractor shall unbolt the auditorium seats once the containment is established and the work area is under negative pressure. The chairs can be removed as non-ACM and disposed. The chairs will be the responsibility of the Abatement Contractor as construction debris. The carpeting shall be removed and discarded as construction debris or contaminated ACM if the floor tile is adhered to the backside of the carpeting. The mastic layer beneath the floor tile contains asbestos and shall be removed as ACM.

The walls in the auditorium are painted with lead-containing paint. The Abatement Contractor shall take the necessary precautions to not disturb the painted surfaces. Avoid adhering painter's tape to areas of obvious delamination while establishing the negative pressure enclosure.

One of the identified ACM during the October 2023 assessment is black mastic pucks (Homogeneous Area- HA -F) that adhere the existing one-foot by one-foot ceiling tiles to the concrete deck. The black mastic/ pucks, HA-F will remain in place and not be disturbed during renovation activities and are not included in the *Summary of ACM* table. For the replacement ceiling, the work involving the installation of metal hangars through the ceiling tiles, and into the concrete deck and joists may be performed by the General Contractor (GC) if the ACM mastic pucks are not disturbed. S&ME has included a Work Plan for the new ceiling installation that will not disturb the mastic pucks. (**Section 17** and **Attachment in Appendix**).



Employees working in structures with ACM and Presumed Asbestos-Containing Materials (PACM) (as well as any other employer using such structures), are subject to the Occupational Safety and Health Administration's (OSHA) worker protection standards for General Industry and/or the Construction Industry (29 CFR 1910.1001 and 29 CFR 1926.1101 respectively). These regulations mandate that building owners and employers take steps to protect employees and building occupants from asbestos exposure.

When public or commercial facilities are subjected to renovation or demolition activities, compliance with the National Emission Standards for Hazardous Air Pollutants (or NESHAP) 40 CFR Part 61 Subpart M is mandated. NESHAP requires building owners to assess building materials that may be disturbed by renovation/demolition activities and remove friable asbestos containing materials or non-friable materials subjected to cutting, grinding, or other disturbance that will render the material friable. The asbestos inspections mandated by NESHAP must classify identified ACM as to its friability, and to the likelihood of the ACM becoming friable during the planned activity. According to the NESHAP, friable ACM is considered a Regulated Asbestos-Containing Material (RACM). When RACM is present or created during renovation or demolition activities and it exceeds certain thresholds, (currently 160 square feet and/or 260 linear feet and/or 35 cubic feet of RACM) then the activity is subject to additional NESHAP mandates such as:

- Permitting,
- Utilization of trained and accredited personnel for removal,
- Special asbestos emission control techniques,
- Specialized waste disposal/manifesting, and
- Record keeping

The State of North Carolina has established the Asbestos Hazard Management program which further regulates asbestos management activities in the state. The Health Hazards Control Unit (HHCU) of the N.C. Department of Health and Human Services, Division of Public Health, has specific asbestos statutes and rules controlling asbestos work in the state. For example, the HHCU must be notified of friable asbestos removal operations and plans to demolish buildings for commercial purposes in the state. Additionally, the HHCU promulgated rules that mandate asbestos removal operations and management of ACM beyond Operations and Maintenance activities in the state must be performed by North Carolina-accredited asbestos professionals.

OSHA Lead in Construction Standard 29 CFR 1926.62 regulates occupational exposure by specifying acceptable airborne concentrations of lead (e.g. Action Level and Permissible Exposure Limit (PEL)). Employee exposure at or above these levels will require the employer to apply certain provisions of the standard (i.e. biological monitoring, employee training, and exposure control including respiratory protection).



- 1.1. The work described in this asbestos abatement specification is based upon information included in the Asbestos Hazard Emergency Response Act (AHERA) *Management Plan for CC Spaulding Elementary School*, (1988) and information obtained by S&ME as S&ME Project Number 22050425, with sampling dates of October 6 and 25, 2023.

Building Owner: Durham Public Schools Board of Education
513 Cleveland Street
Durham, NC 27701
Attn: Ms. Melanie Gartell, Project Manager, Construction and Capital Planning

Facility: CC Spaulding Elementary School
1531 S. Roxboro Street
Durham, NC 27704
(919) 286-4110

Date of Construction: Original building – 1954

Asbestos inspectors of record: James Waters, North Carolina Accredited Inspector No. 13221
Josephine Martin, North Carolina Accredited Inspector No. 12580

Date of Sampling: October 6 and October 25, 2023

Renovation Designer: Bute PLLC
P.O. Box 2833
Durham, NC 27715
919.491.9105

General Contractor: To Be Determined

- 1.2. This work has been conducted in general accordance with S&ME Proposal Number 22050425, Revision 01, dated September 1, 2023.
- 1.2. Only the client, Bute PLLC, the owner, Durham Public Schools, and the asbestos abatement contractor chosen to perform this work may rely upon this document.
- 1.3. This document applies to the abatement of ACM as described in **Section 4** and for the CC Spaulding Elementary School Auditorium only.
- 1.4. Those specified in this section may rely upon this work for the specific project for which it was prepared. S&ME disclaims any liability for reliance on this work by others, or for any other project.
- 1.5. Work associated with this project is subject to the terms and conditions of the proposal specified in **Paragraph 1.1** of this document.



2 Standards

2.1 Summary

- 2.1.1. This Section sets forth governmental regulations and industry standards, which are included and incorporated herein by reference and made a part of the specification. This Section also sets forth those notices and permits that are known to owner and contractor, and which either must be applied for and received, or that must be given to governmental agencies before start of work.
- 2.1.2. Requirements include adherence to work practices and procedures set forth in applicable codes, regulations, and standards.
- 2.1.3. Requirements include obtaining permits, licenses, inspection, releases, and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

2.2 Codes and regulations

- 2.2.1 General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit and more stringent requirements are written directly into the Contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the Contract documents by reference) as if copied directly into the Contract documents, or as if published copies are bound herewith.
- 2.2.2 Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable federal, state, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable federal, state, and local regulations. The Contractor shall hold Durham Public Schools, Bute, LLC, and S&ME harmless for failure to comply with any applicable work, hauling, disposal, safety, health, or other regulation on the part of himself, his employees, or his subcontractors.
- 2.2.3. Federal Requirements: Which govern asbestos abatement work or hauling, and disposal of asbestos waste materials include but are not limited to the following:
 - 2.2.3.1 OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:
 - Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Part 1926, Section 1101 of the Code of Federal Regulations
 - Respiratory Protection Title 29, Part 1910, Section 134 of the



Code of Federal Regulations

Construction Industry
Title 29, Part 1926, of the
Code of Federal Regulations

Access to Employee Exposure and Medical Records
Title 29, Part 1910, Section 2 of the
Code of Federal Regulations

Hazard Communication
Title 29, Part 1910, Section 1200 of the
Code of Federal Regulations

Specification for Accident Prevention Signs and Tags
Title 29, Part 1910, Section 145 of the
Code of Federal Regulations

2.2.3.2 .DOT: U.S. Department of Transportation, including but not limited to:

Hazardous Substances
Title 29, Part 171 and 172 of the
Code of Federal Regulations

2.2.3.3 .EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:

Requirements of the Asbestos hazard Emergency Response Act (AHERA)
Asbestos-Containing Materials in Schools Final Rule & Notice
Title 40, Part 763, Sub-part E, Appendix C of the
Code of Federal Regulations

National Emission Standard for Hazardous Air Pollutants (NESHAP)
National Emission Standard for Asbestos
Title 40, Part 61, Sub-part A, and Sub-part M
(Revised Sub-part B) of the Code of Federal Regulations

Regulations for Asbestos Emissions Standards for Demolition and Renovation
Construction Activities and the Disposal of Asbestos Containing Construction Wastes--
Incorporation by Reference, 40 CFR 61.140 through 61.15, 16VAC 25-30-10 et seq.



2.2.4. North Carolina:

North Carolina Administrative Code
Chapter 10-A
Subchapter 41c - Occupational Health
Section .0600 - Asbestos Hazard Management Program

2.2.5 City of Durham

Code of Ordinances
Chapter 58 and Related Solid Waste Management Rules
Article IV – Removal, Disposition, Etc.
Section 58-152, 58-154 (a-b)

2.3. Standards

- 2.10.1. General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract documents, all applicable standards have the same force and effect and are made a part of the Contract documents by reference as if copied directly into the Contract, or as if published copies are bound herewith.
- 2.10.2. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold Bute PLLC, Durham Public Schools, and S&ME harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.
- 2.10.3. Standards: Which apply to asbestos abatement work or hauling, and disposal of asbestos waste materials include but are not limited to the following:

American National Standards Institute (ANSI)
1430 Broadway
New York, NY 10018
212/354-3300

Fundamentals Governing the Design and Operation of Local
Exhaust Systems
Publication Z9.2-79

Practices for Respiratory Protection Publication Z88.2-80
"American National Standard for Respiratory Protection
-Respiratory Use - Physical Qualifications for Personnel,"
Z88.6-1984.

American Society for Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103
215/299-5400



Safety and Health Requirements Relating to Occupational
Exposure to Asbestos
E 849-82

Specification for Encapsulants for Friable Asbestos-
Containing Building Materials
Proposal P-189

11.11 Notices and Permits

2.11.1. State and Local Agencies

Send written notification with all required information within the mandated time period (ten working days) prior to commencement of asbestos removal operations to:

Health Hazards Control Unit
NCDHHS-Division of Public Health
1912 Mail Service Center or
Raleigh, NC 27699-1912

Or via hand delivery:
5505 Six Forks Road, 2nd Floor, Room D-1
Raleigh, NC 27609

Obtain and post on site a copy of the notification to perform asbestos operations. Submit amendments and have the permit revised as needed to comply with regulations.

2.11.2. Licenses and Accreditations: Maintain current licenses and accreditations as required by applicable state or local jurisdictions for the removal, transporting, disposal, or other regulated activity relative to the work of this Contract.

2.11.3. Posting and Filing of Regulations: Post all notices required by applicable federal, state, and local regulations. Maintain two (2) copies of applicable federal, state, and local regulations and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

3 Schedule

- 3.1. Notify S&ME at least three days in advance prior to work after 6 PM, before 6 AM, or on weekends and holidays.
- 3.2. Allow at least two hours for a visual inspection and four hours for clearance monitoring and analysis for each containment.
- 3.3. It has been indicated that abatement work may take place Spring or Summer of 2024, and continue over an approximate ten to twelve-day period.



4 Scope of Work

- 4.1 Remove the asbestos containing material (ACM) as listed in **Table 1 – Schedule of ACM**, included in **Appendix I**, and depicted in **Figure 1 in Appendix II**.
- 4.2 The contractor shall field verify all quantities. There will be no allowance/additions made for varying quantities of work unless that work is not in a specified area. (Unless the owner overrides this provision by making other arrangements in the contract).
- 4.3 Any required permits shall be obtained by the contractor at no additional cost to the owner and S&ME.
- 4.4 The Contractor shall establish a Regulated Area for the removal of all ACMs. The Contractor shall establish a decontamination area adjacent to each regulated area meeting the requirements of OSHA 1926.1101(j)(2). Workers shall HEPA (high efficiency particulate air) vacuum and remove protective clothing in this area. As per the provisions of the Occupational Safety and Health Administration procedures, the Contractor shall perform the work as indicated in **Sections 6 through 11**.

5 Personal Protective Equipment for Asbestos and Lead

- 5.1 Workers shall wear disposable protective clothing including head covers when performing activities which may result in asbestos or lead disturbance (lead-containing paint), including preparation of the work area.
- 5.2 Respiratory Protection
 - 5.2.1. Appropriate respiratory protection shall be used whenever workers enter the work area.
 - 5.2.2. The Contractor shall ensure that all Workers and Supervisors utilized for the Project use at a minimum NIOSH-approved ½ Face Air Purifying Respirators equipped with disposable N-, P-, or R-100 filters and disposable coveralls during all active asbestos removal, disposal, and handling activities.
 - 5.2.3. Powered air purifying respirators (PAPRs) are required unless/until the contractor can supply historic data that supports his choice of respiratory protection. The contractor has the option to utilize respirators that provide a higher protection factor than is indicated by the historical data.
 - 5.2.4. Respirators shall not be left exposed when not in use; they shall be properly stored.
- 5.3 Used respirator filters and disposable coveralls shall be disposed of as asbestos-containing material.

6 Containment Measures for Friable Removal of Asbestos Containing Floor Tile and Mastic

The contractor may submit an alternate procedure for review and written approval by the Designer. This submittal shall be in writing and have sufficient detail to indicate that the work can be accomplished according to applicable regulations and that human health and the environment will be protected. Do not proceed with any alternate procedure without written approval from S&ME's Project Designer.

The Contractor shall establish a regulated area for the disturbance and removal of the flooring material and mastic. Signs and barrier tape shall be utilized to establish the regulated area on the interior and exterior of the Auditorium. The signs shall include **Asbestos hazard warnings per OSHA 1926.1101**.



The Contractor shall perform disturbance of lead-containing paint within the regulated area. Signs and barrier tape shall include **Lead hazard warnings per OSHA 1926.62.**

- 6.1. A critical containment for control of dust shall be erected prior to any disturbance of friable ACM or ACM that is to be removed as friable.
- 6.2. All openings into the work area shall be covered with critical barriers as follows:
 - 6.2.1. Individually seal all ventilation openings (supply and exhaust), doorways to the adjacent lobby and corridors, stairways adjacent to the stage, the stage, convectors, and other openings into the work area with duct tape alone or with two layers of polyethylene sheeting at least six mil in thickness, taped securely in place with duct tape. Maintain the seal until all work including Project Decontamination is completed. These are critical barriers.
 - 6.2.2. Critical barriers shall be constructed of two separate layers of six-mil polyethylene sheeting. The second layer shall overlap the first layer by at least two inches (2").
- 6.3. Disable any system bringing air into or out of the work area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.
- 6.4. A primary barrier of 6 mil polyethylene covering all surfaces in the work area shall be installed or, at the contractor's option, potentially contaminated surfaces that are not porous and are cleanable may be cleaned after abatement in lieu of covering them.
 - 6.4.1. Note: The stage in the Auditorium is not included in the abatement scope. The large front opening of the stage must be sealed off in order to provide sufficient negative pressure for the containment.
 - 6.4.2. For the stage, the contractor may construct a frame for supporting the poly over the wide opening that leads to the seating area of the auditorium.
 - 6.4.3. For plaster walls coated with lead-containing paint, avoid adhering painter's tape to areas of obvious delamination while establishing the negative pressure enclosure.
- 6.5. Containments shall be smoke tested and inspected by the Contractor at least daily and the results recorded by the contractor's supervisor.
- 6.6. A decontamination unit and load out shall be attached to the containment.
 - 6.6.1. **The contractor may choose to place the decontamination unit and one load-out on the side exit of the Auditorium, towards the corridor with the restrooms. However, the decontamination unit nor the waste loadout cannot extend to the exterior of the building. All exterior doors shall be shut and locked at the end of each shift.**

7 Work Area Preparation (ACM and potential disturbance of lead-containing paint)

- 7.1 The Contractor shall set up a work area, load out area and decontamination area.
- 7.2 The decontamination facility outside of the work area shall consist of a change room, shower room, and equipment room. Any alterations to the designed decontamination facility shall be approved by the Project Designer.



- 7.3 Establishing the Work Area: The work area will include the Auditorium (seating area) and not include the stage.
- 7.4 Work that will disturb lead-containing paint, such as preparing painted surfaces for refinishing or repainting, shall be performed within the Work Area.
- 7.5 Completely Isolate the Work Area from other parts of the building to prevent asbestos-containing dust or debris (or lead-containing dust) from passing beyond the isolated area. This includes installing a hard barrier or dark poly for the first-floor classroom corridor and the office. Should the area beyond the work area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, immediately stop all abatement work and clean those areas in accordance with the requirements of this specification for gross removals. Clearance of these areas is required. Perform all such required cleaning or decontamination at no additional cost to Owner.
- 7.6 Preparing the Area: Remove items stored in the Auditorium such as metal filing and storage cabinets, cardboard boxes of materials, and unsecured desks and chairs.
- 7.7 All building ventilation air systems connected to the work area shall be turned off and sealed during preparation and until the area has passed final visual inspection and final air sampling.
- 7.8 The Contractor shall establish, and mark emergency and fire exits from the work area. Emergency procedures shall have priority over established decontamination entry and exit procedures. Audible and visible fire and emergency evacuation alarms shall be instituted and communicated so as to be heard and seen throughout the entire work area. Install portable fire extinguishers in compliance with National Fire Protection Association, standard No. 10 portable extinguishers. A minimum of (1) ABC dry chemical rated (minimum 20 lbs.) fire extinguisher shall be in the clean room plus one for every 3000 square feet in the work area. There are several doors that lead directly to the lobby, to stairways and to hallways with an exit door.
- 7.9 Containments shall be smoke tested and inspected by the Contractor prior to use and at least daily and the results recorded by the contractor's supervisor.
- 7.10 Electrical Safety:
 - 7.10.1 The Contractor shall implement an electrical practice protocol that includes, but is not limited to, lockout and ground fault circuit interrupter (GFCI) shutdown as described in OSHA Construction Standard 29 CFR 1926.417.
 - 7.10.2 All electrically powered equipment, including portable power tools utilized during the project shall have ground-fault protection as described in OSHA Construction Standards 29 CFR 1926.404 (b). All equipment and wiring shall comply with National Fire Protection Association standard 70, and the National Electrical Code. The Owner's maintenance personnel shall connect the Contractor's power source to the Owner's facility.
- 7.11 The Contractor shall provide adequate lighting throughout the work area, including the decontamination unit and load out area as per the OSHA Construction Standard 1926.56. The lighting will stay on and operational until final clearance.
- 7.12 Hallways and the lobby used to transport waste shall have a 6-mil poly barrier covering the, floor and halfway up the wall (chair rail height). A 6-mil secondary barrier shall be used to cover the floors of walkways used to transport waste. The floor shall be HEPA vacuumed or wet wiped and removed at the end of each shift. Asbestos waste must be transported from the work area to the dumpster or truck in a closed cart or other rigid, closed container. These containers shall be lined with 6-mil poly.



8 Ventilation for Containments

- 8.1. HEPA filtered exhaust units shall be provided to ensure a negative pressure of at least $-0.02''$ H₂O and four air changes per hour.
- 8.2. Air pressure shall be continuously monitored with alarms set at $-0.02''$ H₂O negative pressure.
- 8.3. Manometers shall be calibrated by the Contractor prior to the start of each work shift.
- 8.4. All exhausts shall be ducted to the outside of the building into an unoccupied area.
- 8.5. Two additional units shall be available as emergency backup in the event one or two of the units must be replaced.
- 8.6. The air monitor will inspect the HEPA filtered exhaust units for cleanliness. If a unit is dirty including the wheels, the exhaust openings are not sealed prior to installation, or there are no records related to the HEPA filter's hours of usage, the air monitor will reject the unit.

9 Decontamination Unit and Load-Out

9.1 Decontamination Units:

- 9.1.1 Decon units shall consist of a serial arrangement of compartments separated by airlocks.
- 9.1.2 These shall be clean room, airlock, shower room, airlock, and equipment room.
- 9.1.3 Doors shall be of the 3-layer, Z-flap design.
- 9.1.4 All workers shall enter and exit the work area through the airlock. Workers shall be required to shower thoroughly, in accordance with OSHA regulations prior to exit.
- 9.1.5 Instructions for proper decontamination shall be posted by the Contractor at the decontamination unit.
- 9.1.6 All excess water (except shower water) shall be either combined with removed material or other absorptive material and properly disposed of as per EPA regulations, or filtered, using a 5-micron final filter and disposed in the sanitary sewage system. Contractor shall not place water in storm drains, onto lawns, or into ditches, creeks, streams, rivers, or other areas.

9.2 Load-outs:

- 9.2.1 Load-outs shall consist of three compartments separated by 3-layer, Z-flap doors.
- 9.2.2 Waste shall be carried into compartment one by fully protected workers, bagged a second time or cleaned off and placed in the second compartment.
- 9.3.3 Workers wearing disposable protective clothing and a respirator shall remove the waste from the second compartment and place it in the third compartment, clean or bag it as necessary and then remove it to the appropriate waste storage container.

10 Security

- 10.1. While asbestos abatement work is being performed, at least one worker who communicates in English shall remain outside the containment(s). He/she shall maintain security against unauthorized access to the asbestos abatement area.



10.2. Whenever an asbestos abatement area has not been cleared by the third-party air monitoring firm, but is left unattended, access to the site shall be denied to unauthorized personnel by the use of locked doors or other similar means of securing the area. The Contractor shall construct "hard" barriers as necessary to restrict entry.

10.3. Waste containers located outdoors shall be secured and locked within a fenced area sufficient to maintain security of the material or other secure enclosure or the waste container itself shall be closed and locked when not under observation. Unsecured open top or similar dumpsters/waste containers are not permitted.

10.4. Note that other portions of CC Spaulding Elementary School may be utilized during the abatement period by staff and/or students. The contractor shall post warning signs to prevent unauthorized entry to or near the work area. Detour signs shall be posted to prevent staff, parents and students from entering the work area.

11 Work Practices

11.1 General

11.1.1 Sequence of Work

11.1.2 Build and have decontamination units operational before any workers enter the work area to disturb ACM, to unbolt and remove auditorium chairs, or to disturb lead-containing paint on walls and trim.

11.1.3 Isolate the area and shut off the HVAC.

11.1.4 Complete construction of containment and install HEPA ventilation.

11.1.5 S&ME will inspect and accept the work area prior to start of auditorium chair removal, asbestos removal and disturbance of lead-containing paint.

11.1.6 Wet methods and HEPA-vacuuming shall be used to control generation of dust.

11.1.7 Prior to asbestos removal, the Contractor's equipment, work area and decontamination units will be inspected and approved by the Supervising Air Monitor (SAM) and/ or Accredited Air Monitor.

11.2 Abatement Methods

11.2.1 Removal of auditorium chairs

11.2.1.1 Conduct removal of auditorium chairs and carpeting, utilizing non-friable removal techniques where possible.

11.2.1.2 Loosen bolts that hold the wooden auditorium chairs in place. The bolts will be disposed of as ACM waste as remnants of ACM floor tile and mastic may be adhered to the screw portion.

11.2.1.3 The wooden auditorium chairs will be wiped down and disposed of as construction and demolition waste.



11.2.2 Removal of carpeting, floor tile and mastic

- 11.2.2.1 During carpet removal, it is anticipated the floor tiles may be adhered to the carpeting and break and become friable during carpet removal. The carpeting, floor tile and mastic shall be removed utilizing friable removal techniques.
- 11.2.2.2. During the friable removal of the floor tile and mastic, utilize amended water and HEPA vacuum continuously throughout the abatement and promptly cleanup as the remediation is underway.
- 11.2.2.3 Floor tile mastic will be removed utilizing -friable removal techniques and *M3-205, High Flash Mastic Remover by Twin Chemicals or similar*. Note: The mastic removal product must be a low to no odor mastic removal product.
 - 11.2.2.3.1. Maintain negative exhaust ventilation during application and use of mastic remover.
 - 11.2.2.3.2 Wear respiratory protection and protective clothing, including gloves during application of mastic remover.
 - 11.2.2.3.3 HEPA filtered exhaust units shall be provided to minimize the odors associated with the floor tile removal process.

11.3 Disturbance of lead-containing paint

- 11.3.1 Plaster walls, wood and metal trim, and wood window frames are coated with lead-containing paint. Sections of painted plaster are in poor condition and flaking to the floor. These sections are scheduled for repair and refinishing.
- 11.3.2 The Abatement Contractor shall be responsible for the preparation of walls and trim in the Auditorium
- 11.3.3 The sanding or stabilization of painted surfaces, removal of chipped paint on plaster walls, and other disturbance of lead-containing paint shall be performed within the Regulated Area / containment.
- 11.3.4 Wet methods shall be used to minimize dust.
- 11.3.5 Prompt clean up with HEPA vacuum shall be performed.
- 11.3.6 No eating, drinking, smoking, or chewing will be permitted within the Regulated Area.

11.5 Clean-up All plastic sheeting, tape, cleaning material, clothing, and all other disposable material or items used in the work area shall be packed into sealable plastic bags (6-mil minimum). Each bag shall be individually sealed.

- 11.5.2. All material shall be double bagged, and the outside of the bag and container shall be clean before leaving the work area. Where possible, the outer bag shall be clear to provide view that the waste is double bagged. The bags and containers shall be marked with the OSHA label prescribed by the OSHA 29 CFR 1926.1101 standard referenced in these specifications.
- 11.5.3. In addition to the OSHA labeling requirements, all containers shall be labeled with the name of the waste generator and the location at which the waste was generated during



the load out sequence and before loading the asbestos waste into a container/vehicle prior to transporting off the facility property.

- 11.5.4. All excess water (except shower water) shall be either combined with removed material or other absorptive material and properly disposed of as per EPA regulations, or filtered, using a 5 micron final filter, and disposed in the sanitary sewage system. Contractor shall not place water in storm drains, onto lawns, or into ditches, creeks, streams, rivers, or other areas.

12 Waste

- 12.1 All asbestos-containing waste shall be double-bagged.
- 12.1.1 Bags shall be clear and of 6-mil polyethylene. (or at least the outer bag shall be clear).
- 12.1.2 Bags shall have the required EPA generator, DOT, and OSHA labels.
- 12.1.3 The waste bags shall not be overfilled with flooring material. Excessive weight will cause the bags to rip. The floor tiles can be placed in cardboard boxes and then double wrapped in six mil waste bags.
- 12.2 Removed materials such as carpeting, pieces of plaster walls, floor tiles and mastic, and other components shall be wrapped in at least two continuous layers of 6-mil polyethylene and shall have EPA generator, DOT and OSHA labels affixed.
- 12.3 Auditorium chairs that do not have asbestos waste such as floor tile or mastic may be disposed of as construction and demolition waste – or stored for reuse after cleaning.
- 12.4 Wastewater, including shower water and any other water leaving the containment in a liquid state, shall be filtered through a minimum 5 micron filter and the filtered water may be disposed into the sanitary sewer, unless local regulation prohibits that method of disposal. The contractor shall obtain permission from the City of Durham Public Works Department, to discharge into the sanitary sewer and provide written proof of authorization.
- 12.5 All waste, including rags, suits, polyethylene sheeting, etc. utilized for abatement purposes shall be double-bagged and adequately wet.
- 12.6 Temporary waste storage on site shall be lined with 6-mil polyethylene and locked when not loading. Open top dumpsters are not acceptable.
- 12.7 Waste shall be disposed of in a properly permitted landfill.
- 12.8 The Contractor shall submit a copy of the waste manifest to the North Carolina Department of Health and Human Services, Health Hazard Control Unit (HHCU) within 45 days of completion of the work.
- 12.9 North Carolina-approved Waste Shipment Records shall be utilized to document disposal and shall be returned within forty-five (45) days of the completion of site work as part of the post-abatement submittals. **Final payment will not be made until waste manifests are properly completed, transmitted, and received by the Owner.**

13 Project Monitoring

- 13.1. The Owner shall provide for on-site monitoring. The Contractor shall perform work in such a manner so that asbestos fiber concentrations at any location inside the building do not exceed 0.01 fibers per cubic centimeter (f/cc) of air as analyzed by Phase Contrast Microscopy (PCM).



- 13.2. The Project Monitor shall inspect the negative air machines prior to the units being transported into the Auditorium. If the wheels are dirty, the exhaust openings are not sealed, no records related to the HEPA filters' previous hours of usage or the unit is dirty, the Project Monitor shall reject the unit. The Abatement Contractor shall be prepared to have two additional units at the site in the event one of the units cannot be utilized on the project.
- 13.3. A project monitor shall collect area air sampling for asbestos, as deemed advisable. Typically they shall be collected as follows:
 - 13.3.1. At least one air sample inside the contained area,
 - 13.3.2. At least one air sample at the HEPA exhaust but not in the direct air flow,
 - 13.3.3. At least one air sample at the clean room, and
 - 13.3.4. At least two samples outside the work area, preferably near occupied areas and/or areas accessible to the public.
- 13.4. When on site, the air monitor shall check the manometer readings at least 4 times per 8-hour shift (5 times for a 10-hour shift and 6 times for a 12-hour shift). He/she shall record the manometer reading in the field notes and on a chart to remain at the jobsite for review by the contractor, owner, regulators, and other authorized parties.
- 13.5. The Contractor will cooperate with the project monitor, and should unsafe conditions be identified by the monitor, appropriate corrective actions, including stopping work, shall be instituted.
- 13.6. The Contractor shall cooperate with the Air Monitor and provide access to the work areas as well as sufficient electrical power and lighting to enable the air monitor to perform his/her duties. For elevated work, the Contractor shall provide ladders/lifts etc. and appropriate fall protection for the air monitor or others so that the work can be safely inspected.
- 13.7. The project monitor will not supervise the remediation work.
- 13.8. The Contractor shall be responsible for unsafe conditions that arise out of the work.
- 13.9. The on-site monitor is not responsible for collection of OSHA-required personal samples for the Contractor.

14 Clearance

- 14.1 S&ME will conduct a visual inspection and transmission electron microscopy (TEM) clearance monitoring for all interior asbestos abatement work.
- 14.2 No clearance inspection or monitoring shall be conducted until all asbestos abatement inside a containment is complete.
- 14.3 A minimum of five, 1200 liter or more air samples will be collected for each clearance. Clearance criteria is all samples to be less than (<) 15 structures per square millimeter (<15 S/mm²) when viewed via TEM. Volume requirements may be adjusted with approval of the Supervising Air Monitor.
- 14.4 A minimum of two lead wipes shall be collected for each lead clearance. The lead wipes shall be collected over a 12" x 12" area on the floor just outside the work area. Clearance criteria is the wipe sample to be less than 10 micrograms per square foot (µg/ft²) of residual lead dust.
- 14.5 The Contractor may not remove critical barriers or HEPA ventilation until the work area is cleared.
- 14.6 The contractor shall be responsible for any additional cleaning activities necessary to leave the work areas free of visible dust, debris, and asbestos contamination.



15 Personal Samples

- 15.1 The Contractor shall collect and analyze personal samples at their own expense, as required by OSHA.
- 15.2 The results of personal sampling shall be posted at the job site within two days of receipt of results.
- 15.3 A copy of all personal sample results shall be included in the post-job submittal package.

16 Submittals

- 16.1 One copy of pre-job submittals shall be submitted to S&ME for review at least one week prior to start of abatement work.

16.2 Pre-job submittals shall include:

- 16.2.1. A directory of contacts, including the Contractor's Corporate Office phone and fax numbers, the project superintendent's phone and pager or cellular numbers, the project site foreman's phone and pager or cellular numbers.
- 16.2.2. Proof of Insurance (General Liability, Asbestos Specific Liability).
- 16.2.3. A copy of the current North Carolina's Contractor License
- 16.2.4. A roster of supervisors and workers.
- 16.2.5. A copy of each person's accreditations.
- 16.2.6. A copy of each person's medical authorization to work with asbestos and wear a respirator.
- 16.2.7. A copy of the Contractor's respiratory protection program, including the rationale and documentation for respirator selection on this job. This document shall meet the requirements of 29 CFR 1910.134.
- 16.2.8. A copy of the North Carolina permit application and the resulting permit for the project.
- 16.2.9. Documentation that the workers have received training for lead that meets OSHA Lead in Construction Standard requirements (29 CFR 1926.62).

16.3. On-site documentation shall include:

- 16.3.1. Properly completed North Carolina – HHCU permit.
- 16.3.2. A roster of workers and supervisors.
- 16.3.3. A copy of each person's accreditations.
- 16.3.4. A copy of each person's medical authorization to work with asbestos and wear a respirator.
- 16.3.5. A copy of the Contractor's respiratory protection program, including the rationale and documentation for respirator selection on this job.
- 16.3.6. A copy of the Contractor's hazard communication program, including:
- 16.3.7. Material Safety Data Sheets for asbestos and all chemicals used on site.
- 16.3.8. An inventory of chemicals on site.



- 16.4 Post-job submittals** shall be submitted **within 30 days of asbestos abatement completion** (as shown on the latest revision of the permits) and shall include:
- 16.4.1. Any additions or changes to the pre-job submittals.
 - 16.4.2. Landfill Documentation and Receipts (Waste manifest, waste shipment record, chain of custody).
 - 16.4.3. A copy of the permit and any revisions for the project.
 - 16.4.4. Supervisor's daily logbook documenting all required testing, inspections, and significant events.
 - 16.4.5. List of workers and supervisors actually utilized for the project, to include North Carolina Accreditation number, date of last fit test and last medical exam.
 - 16.4.6. Personnel air monitoring records for OSHA compliance.

17 Installation of Metal Hangars and Grid for New Suspended Ceiling

(refer to **Work Plan for CC Spaulding Elementary School Auditorium Ceiling** included in **Appendix V**)

The ceiling tiles in the auditorium are scheduled to remain in place with a new suspended ceiling to be installed beneath the existing ceiling. The existing ceiling tiles are adhered to the concrete deck via ACM mastic pucks. The mastic pucks are not scheduled for abatement and steps must be followed to not disturb the mastic pucks. For installation of the new suspended ceiling system, screws will be installed through existing ceiling tiles and concrete deck, into the bottom flange of the joists.

The work involving the installation of hangars into the ceiling tiles, concrete deck and joists may be performed by the General Contractor (GC) using a method that will not disturb the ACM mastic pucks and therefore not considered asbestos abatement. The work must be performed after removal of auditorium chairs, completion of asbestos abatement, and final clearance air sampling has passed. The GC will perform the work after the negative pressure containment has been removed. To avoid disturbance of the ACM mastic pucks, the hangars must be installed at the seams between ceiling tiles. New ceiling tiles are presumed to be two feet by two feet, with drilling into the joists at four-foot centers.

The *Work Plan for CC Spaulding Elementary School Auditorium Ceiling* included in **Appendix V** provides methods and steps for the GC to follow and must be provided to the contractor prior to asbestos abatement so that the GC may visit the school and view the auditorium ceiling.

18 General

- 18.1 Comply with all applicable Federal, State and Local regulations.

Appendices

Appendix I – Schedule of ACM

Table 1- Schedule of ACM

HA	Material Description	Location	^a Quantity	^b Type	Percent & Type Asbestos
AB	Floor Tile, 9" x 9", wine color	Auditorium floor – under carpet	2,000 SF	Miscellaneous	2-3% Chrysotile
AF	Floor tile, 9"x9" light gray streaked	Auditorium floor – under carpet	2,000 SF	Miscellaneous	2-3% Chrysotile
F	^d Black Mastic/Pucks 2% Chrysotile	Auditorium ceiling	4000 SF (entire ceiling)	Miscellaneous	2% Chrysotile
H	Mastic Under Floor Tile 3% Chrysotile	Auditorium floor	4,000 SF	Miscellaneous	3% Chrysotile

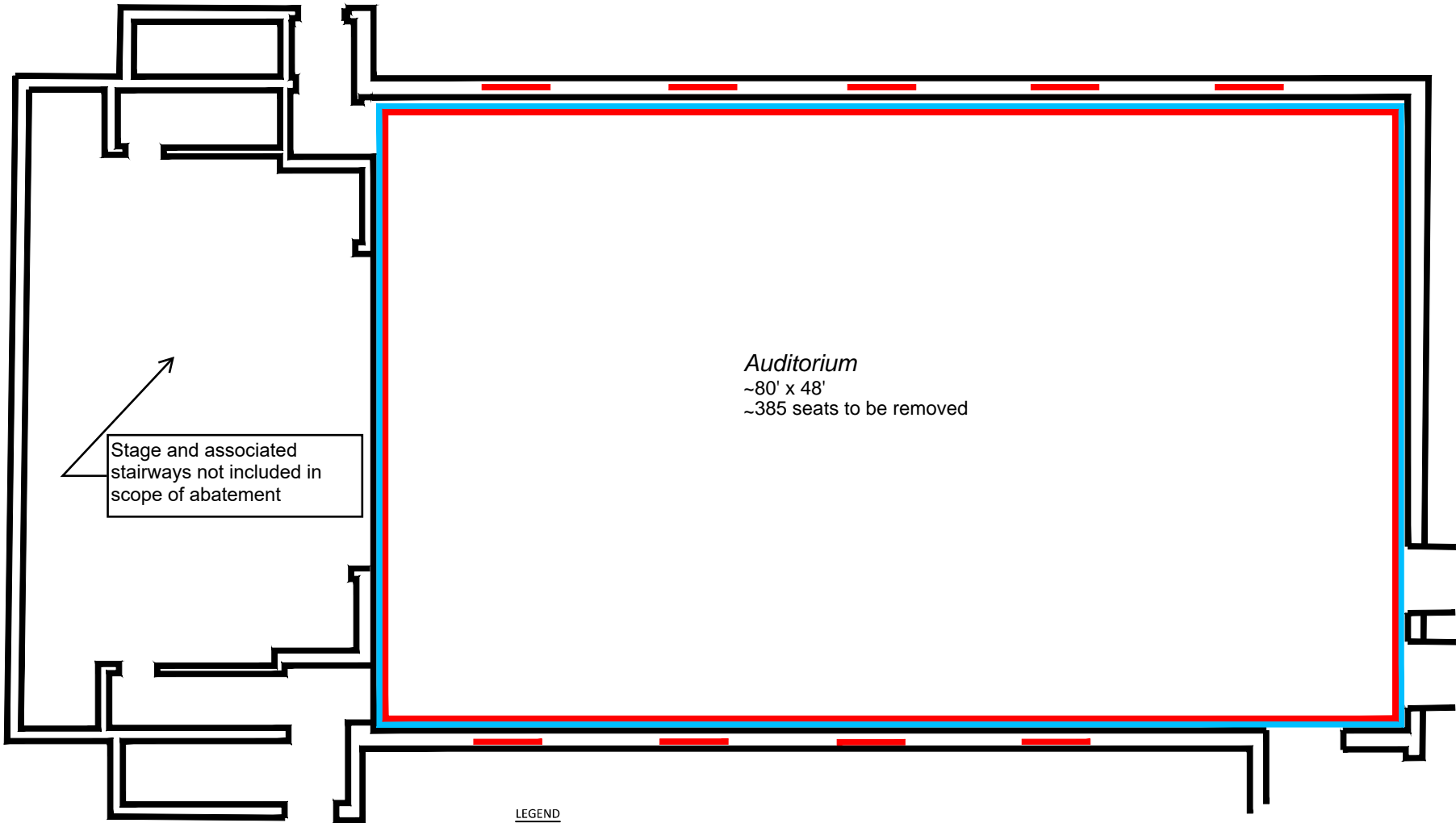
HA = Homogeneous Area SF = Square feet LF = Linear feet

^aRefer to **Figure 1** in **Appendix II** for specific material locations.

^bQuantities are approximate and should not be used for cost estimates or bidding purposes.

^dWork involving the ceiling tiles is recommended to be performed in a manner that does not disturb the mastic pucks.

Appendix II – Specification Figure






Stage and associated stairways not included in scope of abatement

Auditorium
~80' x 48'
~385 seats to be removed

DOORS TO LOBBY AND EXIT

LEGEND

-  ACM FLOOR TILE AND MASTIC. BENEATH CARPET
-  ACM MASTIC ABOVE 12-INCH CEILING TILES
-  LEAD-CONTAINING PAINT ON PLASTER WALLS, BASEBOARDS, WINDOW TRIM AND FRAMES. (PLASTER IS NON-ASBESTOS)

SIDE EXIT DOOR TO HALLWAY AND BATHROOM / WATER SOURCE



Asbestos Abatement Design
CC Spaulding Elementary School
1531 S. Roxboro Street
Durham, North Carolina

SCALE:	FIGURE NO.
NTS	1
DATE:	
November 20, 2023	
PROJECT NUMBER	
220500425	

**Appendix III – Pre-Abatement Assessment Report
- October 2023 Sampling**



Pre-Abatement Assessment Report
CC Spaulding Elementary School - Auditorium
1531 S. Roxboro Street
Durham, Durham County, North Carolina
S&ME Project No. 22050425

Performed by: Jo Martin, James Waters, and Guy Kanyinda

Date: October 6 and 25, 2023

PREPARED FOR:
Bute, PLLC
P.O. Box 2833
Durham, NC 27715

PREPARED BY:
S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

December 5, 2023



December 5, 2023

Bute, PLLC
P.O. Box 2833
Durham, North Carolina 27715

Attention: Mr. Lindsey Bute
lindsey@butepllc.com

Reference: **Pre-abatement Assessment Report**
CC Spaulding Elementary School
Durham, Durham County, North Carolina
S&ME Project No. 22050425

Dear Mr. Bute:

S&ME, Inc. (S&ME) is pleased to provide the enclosed report detailing our pre-abatement asbestos and lead in paint assessment of the CC Spaulding Elementary School Auditorium located at 1531 S. Roxboro Street in Durham, Durham County, North Carolina. The purpose of the assessment was to identify asbestos containing materials (ACM), and lead-containing paint (LCP), prior to the abatement and subsequent renovation of the auditorium. Our services were performed on October 6 and 25, 2023, in general accordance with S&ME Proposal No. 22050425 dated September 1, 2023. The following report includes the project background, sampling and analysis procedures, findings and results, conclusions and recommendations as necessary.

This report is provided for the sole use of Bute, PLLC and Durham Public Schools. Use of this report by any other parties will be at such party's sole risk, and S&ME disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the assessment and of the specific areas referenced.

S&ME appreciates this opportunity to provide our services to you. Please call if you have questions concerning this report or any of our services.

Sincerely,

S&ME, Inc.

Handwritten signature of Josephine Martin in black ink.

Josephine Martin
Project Manager

Handwritten signature of Janet K. Phillips in black ink.

Janet K. Phillips
Senior Industrial Hygienist

Senior Review by Tom Raymond, PE



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Appendices

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Appendix II – Representative Photographs

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Executive Summary

An asbestos and lead in paint assessment was conducted by S&ME on October 6 and 25, 2023 at CC Spaulding Elementary School, located at 1531 S. Roxboro Street in Durham, Durham County, North Carolina. The elementary school contains a gymnasium, auditorium, classrooms ranging from grades K-5, cafeteria, and administrative offices.

The purpose of the assessment was to identify asbestos containing materials (ACM), and lead-containing paint (LCP) in preparation of an abatement design and subsequent abatement and renovation activities in the Auditorium. The assessment was conducted in the school auditorium and no other areas of the school were assessed or observed.

Homogeneous areas (HA) suspected of containing asbestos were identified and sampled. Eighteen suspect ACM bulk samples were collected as part of this limited asbestos assessment. The following table includes the existing ACM included in the Asbestos Hazard Emergency Response Act (AHERA) Management Plan (auditorium only), along with materials identified during the current assessment as ACM.

Table E-1-Identified Asbestos-Containing Materials

HA	Material Description	Location ^a	Category	Approximate Quantity ^b
AB	Floor Tile, 9" x 9", wine color	Auditorium floor	Category I Friable	2,000 SF
AF	Floor tile, 9"x9" light gray streaked	Auditorium floor	Category I Friable	2,000 SF
F	Black Mastic/Pucks 2% Chrysotile	North Corner of Auditorium Ceiling	Category II Non-Friable	4,000 SF
H	Mastic Under Floor Tile 3% Chrysotile	South Corner Floor under Chair in Auditorium	Category I Non-Friable	4,000 SF

HA = Homogeneous Area SF = Square feet LF = Linear feet CF = Cubic Feet

^aRefer to Appendix for specific sample locations.

^b**Quantities are approximate and should not be used for cost estimates or bidding purposes.**

Three paint chip samples were collected from painted surfaces to be tested for the presence of lead in paint on building materials. Paint samples that contain paint at levels greater than the laboratory detection limits are considered "lead-containing paint" (LCP) according to the Occupational Safety and Health Administration (OSHA) Lead in Construction Standard 29 CFR 1926.1101.

The following paint samples are considered LCP:



Table E-2 - Identified Lead-Containing Paint

ID	Paint Color	Substrate	Location ^a
CC-L-01	Off-white/Light Green	Plaster	Wall near exit door and steps to stage
CC-L-02	Brown/Light Green	Metal	Beneath window to left of stage
CC-L-03	Deep Blue/Brown underneath	Metal/Wood	Doorway to steps behind stage

^aRefer to Appendix for specific sample locations.

This summary is for convenience only and should not be relied upon without first reading the full contents of this report, including appended materials.

1.0 Introduction

Bute, PLLC retained S&ME to conduct asbestos consulting services for the CC Spaulding Auditorium Renovations, located at 1531 S. Roxboro Street in Durham, Durham County, North Carolina. Prior to the preparation of abatement specification, S&ME assessed materials not included in the AHERA Management Plan. The assessment was performed by Ms. Jo Martin and Mr. James Waters with assistance from Mr. Guy Kanyinda. This assessment was performed in general accordance with S&ME Proposal No. 22050425 dated September 1, 2023.

An ACM is defined by State and Federal regulations as a building material containing greater than one percent (>1%) of one of the six asbestos minerals regulated by the EPA and OSHA. EPA defines lead-based paint as the coating on surfaces which contains 1.0 mg/cm² or more of lead or 0.5 percent or more lead by weight.

Demolition and renovation in public and commercial buildings are regulated by OSHA, EPA and NC Department of Health and Human Services (NC DHHS). The EPA and NC DHHS require asbestos assessments, conducted by accredited individuals, prior to renovation and/or demolition projects. Code 40 of Federal Regulations Part 61, Subpart M, Final Rule, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and NCHHS require asbestos assessments, followed by the proper removal, and disposal of ACM that is affected by renovation or demolition. The identification of ACMs will aid in the prevention of occupational exposures and/or environmental releases of airborne asbestos. Identification of ACM is also required by OSHA 1926.1101. The EPA, OSHA and NC DHHS define ACM as materials containing greater than one (1) percent asbestos in a representative sample. However, OSHA also regulates materials containing less than or equal to one percent asbestos.

EPA and OSHA regulate projects involving the disturbance of painted surfaces containing lead. The North Carolina Occupational Safety and Health Division (NC-OSHA) regulate exposures to lead during construction per the Lead in Construction Standard 29 CFR 1926.62. During the lead assessment, paint chip samples were collected from painted surfaces to identify the presence or absence of lead in paint on building materials impacted by the renovation. **OSHA does not stipulate a minimum lead content; therefore, the presence of any amount of lead is regulated within the aforementioned standard.**



Note: Although CC Spaulding Elementary school may be considered a child-occupied facility, the lead in paint assessment was performed for compliance with the OSHA Lead in Construction Standard, and a full HUD Level Lead-based Paint Assessment was not performed.

1.1 Purpose

The purpose of the assessment was to identify ACM and LCP. The assessment included the auditorium floor, walls, windows, and ceiling. No classrooms or offices were assessed at this time. The report should be interpreted only regarding the specific location and materials referenced.

1.2 Site Description

CC Spaulding Elementary School was originally built in 1954, with a gymnasium addition in 1975. A Media Center and playground were added in 2009, with a renovation to the original classroom wing. The auditorium portion of the building is a two-story concrete structure with brick façade. The lower level is the cafeteria and kitchen.

1.3 Asbestos Sampling and Analysis

A visual assessment of the Auditorium was performed to determine the HAs of suspect ACMs. Based on EPA definitions used in the Asbestos Hazard Emergency Response Act (AHERA), 40 CFR 763, an HA of asbestos-suspect building material has the same color and texture and is thought to be installed within the same timeframe. S&ME assessed the interior of the auditorium for suspect ACMs, including thermal system insulation (TSI), surfacing materials, and miscellaneous materials. Representative samples of asbestos-suspect building materials were collected from each HA in accordance with the EPA's AHERA protocol and applicable State regulations.

Bulk samples from each homogeneous areas of suspect ACM were collected, placed in sealable containers and labeled with unique sample numbers. The suspect asbestos-containing bulk samples were recorded on a chain-of-custody and submitted to EMSL Analytical, Inc in Morrisville, North Carolina for analysis by Polarized Light Microscopy (PLM), coupled with dispersion staining in general accordance with the EPA 600/R-93/116 Method with a "Positive Stop" request. Laboratories used for sample analysis are accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), which is administered by the National Institute of Standards and Technology (NIST). The laboratory analysis reports the specific type of asbestos mineral identified (if any) and the percentage of asbestos present in each sample.

1.4 Asbestos Assessment

Identified ACM were assessed based on the observed condition (good, fair, or poor) and potential for disturbance due to the scheduled demolition. Identified ACM were also categorized based on the EPA's NESHAP regulation categories. Friable ACM is classified as an ACM that can be crumbled to a powder by moderate hand pressure. Non-friable ACM is classified as either Category I Non-friable ACM or Category II Non-friable ACM. Category I and Category II Non-friable ACM are distinguished from each other by their fiber release potential when damaged. Generally, Category I Non-friable ACM, which includes intact ACM roofing materials, gaskets, packing, and resilient floor coverings is less likely to become friable and release fibers in a damaged state. Category II Non-friable ACM include all other non-friable ACM excluding Category I that have a high probability of being rendered friable during removal activities or demolition. All Friable ACM, Category I Non-friable ACM that has



become friable, Category I Non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or Category II Non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations are considered to be a Regulated Asbestos-Containing Material (RACM).

1.5 Lead Paint Sampling and Analysis

Paint chip samples were collected from painted surfaces in the Auditorium, to identify the presence or absence of lead paint on building materials impacted by the scheduled renovation. A visual assessment was conducted to perform the limited lead containing paint sampling to broadly characterize the likely presence and location of lead on readily accessible coated building materials. Selected painted surfaces were assessed for lead content by the collection of an approximately two-square inch area of paint from exposed surfaces. Samples were placed in sealable containers and labeled with unique sample numbers. The paint samples were recorded on a chain-of-custody and submitted to EMSL in Kernersville, North Carolina for analysis by Flame Atomic Absorption Method 846 3050B/70000B.

2.0 Results

2.1 Asbestos

Eighteen suspect bulk ACM samples were collected during this limited assessment. Based on the assessment and the AHERA Management Plan, the materials listed in the table below are identified as ACM.

Table 3-1 - Identified Asbestos-Containing Materials

HA	Material Description	Location ^a	Category	Approximate Quantity ^b
AB	Floor Tile, 9" x 9", wine color	Auditorium floor	Category I Friable	2,000 SF
AF	Floor tile, 9"x9" light gray streaked	Auditorium floor	Category I Friable	2,000 SF
F	Black Mastic/Pucks 2% Chrysotile	Auditorium Ceiling	Category II Non-Friable	4,000 SF
H	Mastic Under Floor Tile 3% Chrysotile	Auditorium floor	Category I Non-Friable	4000 SF

HA = Homogeneous Area SF = Square feet LF = Linear feet CF = Cubic Feet

^aRefer to Appendix for specific sample locations.

^bQuantities are approximate and should not be used for cost estimates or bidding purposes.



The summary of bulk asbestos results is provided in **Appendix I**. Representative photographs of ACMs are provided in **Appendix II**. The laboratory report and chain of custody records are included in **Appendix III**. A copy of the S&ME's asbestos inspector's license/accreditation is provided in **Appendix IV**.

2.2 Lead Containing Paint

Three paint chip samples were collected from painted surfaces to be tested for the presence of lead in paint on building materials. The data generated from the paint sampling indicated that samples collected were reported at levels above the laboratory detection limits and are considered LCP:

Table 3-2 - Identified Lead-Containing Paint

ID	Paint Color	Substrate	Location ^a
CC-L-01	Off-white/Light Green	Plaster	Wall near exit door and steps to stage
CC-L-02	Brown/Light Green	Metal	Beneath window to left of stage
CC-L-03	Deep Blue/Brown underneath	Metal/Wood	Doorway to steps behind stage

^a Refer to Appendix for specific sample locations.

Refer to **Appendix I** for a complete list of components sampled along with results.

OSHA regulates occupational exposures to paint, meaning any concentration of lead present in painted surfaces is regulated in accordance with OSHA regulation 29 CFR 1926.62. The summary of lead paint sample results is provided in **Appendix I**. The laboratory report and chain of custody records are included in **Appendix III**.

3.0 Conclusions

3.1 Asbestos

Asbestos was reported in materials that will be impacted during the upcoming abatement and renovation in the Auditorium. S&ME will be preparing an asbestos abatement specification for the removal of floor tile and mastic in the auditorium prior to the planned renovations. We understand that renovation plans include the installation of a suspended ceiling with hangars to be installed into the roof or deck metal members located above the cementitious ceiling. Our abatement design will include methods for the work affecting the ceiling tiles and mastic pucks.

3.2 Lead Containing Paint

The paint samples collected from the auditorium are reported as LCP. Work activities affecting LCP coated surfaces (e.g., component removal, manual renovation, paint surface preparation, etc.), should be performed in accordance with OSHA, including but not limited to training, initial exposure monitoring, the use of personal protective equipment, and medical surveillance.



S&ME's asbestos abatement design will include a section for work practices involving substrates and building components coated with LCP.

The OSHA Lead in Construction Standard stipulates a maximum worker exposure limit, referred to as the Permissible Exposure Limit (PEL), of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) over an eight-hour time weighted average (TWA). The standard requires monitoring the lead level in the worker's blood (workers blood lead level) when exposed to airborne lead at or above the Action Level of $30 \mu\text{g}/\text{m}^3$ over an eight-hour TWA. OSHA requires the employer to make an initial determination of whether an employee's exposure to lead exceeds the Action Level over an eight-hour TWA. Monitoring at the breathing zone of the employee is required unless the employer has objective data demonstrating the employees will not be exposed to lead in excess of the Action Level.

4.0 Assumptions and Limitations

4.1 Asbestos Assessment Limitations

This report is provided for the sole use of the Client. Use of this report by any other parties will be at such party's sole risk, and S&ME disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the sampling period and of the specific areas referenced. Under no circumstances is this report to be used as a bidding document, or as a project design or specification.

S&ME performed the services in accordance with generally accepted practices of reputable environmental consultants undertaking similar studies at the same time and in the same geographical area. S&ME has endeavored to meet this standard of care. No other warranty, expressed or implied, is intended or made with respect to this report or S&ME's services. Users of this report should consider the scope and limitations related to these services when developing opinions as to risks associated with the site.

The possibility exists that suspect materials were undetected in inaccessible or concealed areas such as above the solid ceiling. If additional suspect materials are discovered during the planned destructive activities, bulk samples must be collected by an accredited asbestos inspector and analyzed for asbestos content.

This report is not intended for use as an asbestos abatement specification. *The quantities of ACM provided in this report are estimates for sample collection purposes and should not be used for asbestos abatement bidding purposes. The Asbestos Abatement Contractor is responsible for verifying the quantities of ACM for asbestos abatement purposes.*

4.2 Lead Paint Assessment Limitations

As is the case with lead paint inspections, surfaces that were not readily apparent or located in concealed locations may not have been identified. If any additional coating that is suspected to be LCP is discovered and was not included in this report as a tested surface, it should be evaluated before it is disturbed.

The limited lead paint sampling was intended to identify those surfaces that contain normally detectible levels of lead in paint. No method of analysis or testing of paint can verify that there is no lead in paint. Such testing or



analysis is always subject to a minimum detection limit that is greater than zero; therefore, it is not possible to determine that OSHA regulations will not apply based upon paint testing and/or analysis alone.

The LCP sampling was not intended to and did not evaluate employee exposure to lead. For that, lead air monitoring is required. This report is not intended for guidance in complying with OSHA regulations or standards pertaining to lead in paint. It is not within the scope of this work to describe precautions, safeguards, and regulations relating to LCP. These services are available but were not included within the scope of work.

This report is not intended for use as a lead abatement specification. Prior to LCP abatement, S&ME recommends that an appropriately trained professional develop a scope of work for such activities.

Appendices

Appendix I – Tables

Table 1- Asbestos Summary

Project Name:	CC Spaulding Elementary	Project Number: 22050425		
Location:	1531 S Roxboro St Durham, NC	Sampling Date(s): 10/6/23 10/25/23	Assessors & State Numbers: Jo Martin/12580, James Waters/13221	

HA ID	Material Description	Material Location	Quantity	¹ Cat (F/I/II)	² Type	³ Condition/ Potential for Disturbance	Sample Number	Sample Location	Type and Percent Asbestos
A	Plaster	Auditorium Walls	>1000 SF	F	Sur.	Poor/High	CC-A-01	1 st Window left of stage	One Layer Only: ND
							CC-A-02	Vestibule left side of stage	Skim Coat: ND Base Coat: ND
							CC-A-03	Wall on Rt side of stage	Skim Coat: ND Base Coat: ND
							CC-A-04	4 th Window on right side	Skim Coat: ND Base Coat: ND
							CC-A-05	2 nd Window on left	Skim Coat: ND Base Coat: ND
B	Black Mastic	Doorways to lobby and exits at sides of stage	25 LF	I	Misc	Poor/High	CC-B-01	Doorway to exit- left side of stage	ND
							CC-B-02	Door- right side of stage	ND
C	Carpet Glue	Beneath Carpet and above floor tile	4000 SF	I	Misc	Poor/High	CC-C-01	Doorway to exit- left of stage	ND
							CC-C-02	Door to lobby	ND
D	Leveling Compound	Floor Seams – at doorway areas next to the stage	12 LF	II	Misc	Fair/High	CC-D-01	Doorway on left side	ND
							CC-D-02	Doorway on right side	ND
E	Ceiling Tiles	Ceiling of Auditorium	4000 SF	F	Misc	Good/High	CC-E-01	North corner of auditorium	ND

ND = None Detected NA = Not Applicable SF = Square feet LF = Linear feet CF = Cubic Feet

Quantities are approximate and should not be used for cost estimates or bidding purposes

¹Category: F=Friable I=Category I, Non-Friable II=Category II, Non-Friable

²Type: Misc. = Miscellaneous Sur = Surfacing TSI = Thermal System Insulation

³Condition: Good, Fair or Poor Accessible during renovation or demolition with Potential for Disturbance; Low or High

Table 1- Asbestos Summary

Project Name:	CC Spaulding Elementary	Project Number: 22050425		
Location:	1531 S Roxboro St Durham, NC	Sampling Date(s): 10/6/23 10/25/23	Assessors & State Numbers: Jo Martin/12580, James Waters/13221	

HA ID	Material Description	Material Location	Quantity	¹ Cat (F/I/II)	² Type	³ Condition/ Potential for Disturbance	Sample Number	Sample Location	Type and Percent Asbestos
							CC-E-01	West corner of auditorium	ND
F	Mastic Pucks**	Ceiling of Auditorium – above 12-inch by 12-inch ceiling tiles	4 to 5 pucks per ceiling tile	II	Misc	Good/High	CC-F-01	North corner of auditorium	2% Chrysotile
							CC-F-02	West corner of auditorium	ND
G	Concrete or concrete like material	Ceiling of Auditorium	4000 SF	I	Sur/Misc	Good/High	CC-G-01	North corner of auditorium	ND
							CC-G-02	West corner of auditorium	ND
H	Mastic under 9-inch floor tile	Auditorium Floor	4000 SF	I	Misc	Good/High (tiles under carpet are in friable condition)	CC-H-01	South corner floor near chair – area where carpet is pulled away	3% Chrysotile

*Laboratory note: inseparable glue & leveling compound

**Laboratory note: sample group is not homogeneous

ND = None Detected NA = Not Applicable SF = Square feet LF = Linear feet CF = Cubic Feet

Quantities are approximate and should not be used for cost estimates or bidding purposes

¹Category: F=Friable I=Category I, Non-Friable II=Category II, Non-Friable

²Type: Misc. = Miscellaneous Sur = Surfacing TSI = Thermal System Insulation

³Condition: Good, Fair or Poor Accessible during renovation or demolition with Potential for Disturbance; Low or High

Table 2 – Lead in Paint Summary

Project Name:	CC Spaulding Elementary	Project Number:	22050425
Location:	1531 S Roxboro St Durham, NC	Sampling Date(s):	10/6/2023
		Assessors:	Jo Martin/ Guy Kanyinda

Sample Number	Substrate	Component	Color	Sample Location ¹	Concentration (% by weight)	>LOD ²
CC-L-01	Plaster	Walls of Auditorium	Off-White/ Light Green	Wall near exit door and steps to stage	0.14%	Yes
CC-L-02	Metal & Wood	Baseboard, Trim beneath and above windows and window frames	Brown/ Light Green	Beneath window to left of stage	0.061%	Yes
CC-L-03	Metal & Wood	Trim at floor around stage (beneath edge of carpet)	Deep Blue under Brown	Doorway to steps behind stage	0.056%	Yes

¹Sample location: Refer to site photographs or figure for sample locations

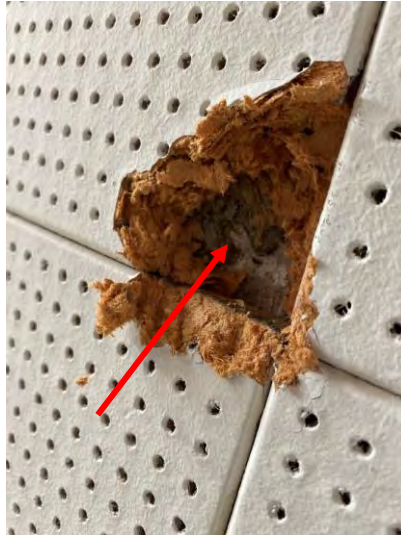
²LOD = Laboratory Limit of Detection

Note that any amount of reportable lead denotes "lead-containing paint"

Appendix II – Representative Photographs




1	Location	Ceiling- North Corner of Auditorium	Date: 10/25/2023
	Remarks	CC-F-01: Black mastic puck sample taken above ceiling, positive for asbestos	



2	Location	Auditorium Floor- South Corner under chair	Date: 10/25/2023
	Remarks	CC-H-01: Black Mastic on floor under carpet, positive for asbestos	







			Date: 10/6/2023
			Photographer: Guy Kanyinda
3	Location	Window Next to Stage	
	Remarks	CC-A-01: Plaster walls throughout auditorium in poor condition	

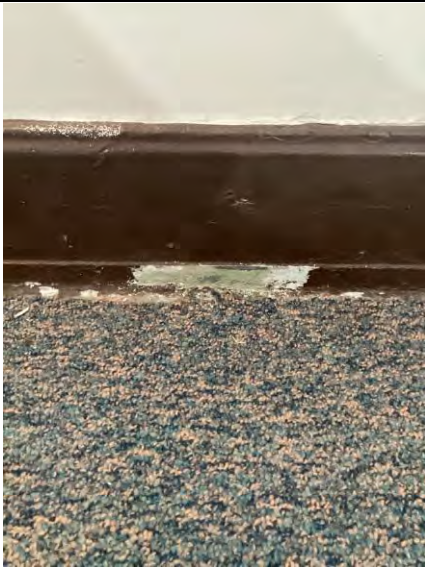
			Date: 10/6/2023
			Photographer: Guy Kanyinda
4	Location	Doorway Left of Stage	
	Remarks	CC-D-02: Leveling compound under floor seams throughout auditorium floor.	




			Date: 10/25/2023
			Photographer: Guy Kanyinda
5	Location	Ceiling of Auditorium- North Corner	
	Remarks	CC-E-01: Smooth ceiling tiles with holes and burnt orange material covering entire ceiling of auditorium. No asbestos in ceiling tiles.	

			Date: 10/6/2023
			Photographer: Guy Kanyinda
6	Location	Wall near stage exit door and steps to stage	
	Remarks	Plaster substrate wall colored off white and light green. Poor to good condition in various areas, flaking present in areas as well. Lead-containing paint.	



			Date: 10/6/2023
			Photographer: Guy Kanyinda
7	Location	Beneath Window to Left of Stage	
	Remarks	Wood baseboard, and trim on walls and around windows. Brown and light green color with some areas of damage ranging from good to fair. Lead-containing paint.	

			Date: 10/6/2023
			Photographer: Guy Kanyinda
8	Location	Doorway to Steps behind Stage	
	Remarks	CC-L-03: Metal/wood substrate around the stage beneath edge of carpet. Deep blue under brown and in good standing Lead-containing paint.	

Appendix III- Laboratory Reports



EMSL Analytical, Inc.

2500 Gateway Centre Blvd., Suite 600 Morrisville, NC 27560

Tel/Fax: (919) 465-3900 / (919) 465-3950

<http://www.EMSL.com> / raleighlab@emsl.com

EMSL Order: 292307701

Customer ID: SMEI60

Customer PO: 22050425

Project ID:

Attention: Jo Martin
S&ME, Inc.
3201 Spring Forest Road
Raleigh, NC 27616

Phone: (919) 872-2660

Fax: (919) 790-9827

Received Date: 10/06/2023 12:40 PM

Analysis Date: 10/10/2023

Collected Date: 10/06/2023

Project: CC Spaulding

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CC-A-01 <small>292307701-0001</small> <i>Sample contains one layer only.</i>	1st Window Left of Stage - Plaster	White Non-Fibrous Homogeneous		55% Ca Carbonate 25% Matrix 20% Non-fibrous (Other)	None Detected
CC-A-02-Skim Coat <small>292307701-0002</small>	Vestibule Left of Stage - Plaster	White Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
CC-A-02-Base Coat <small>292307701-0002A</small>	Vestibule Left of Stage - Plaster	Tan Non-Fibrous Homogeneous		20% Quartz 20% Ca Carbonate 60% Non-fibrous (Other)	None Detected
CC-A-03-Skim Coat <small>292307701-0003</small>	Wall Rt Side of Stage - Plaster	White Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
CC-A-03-Base Coat <small>292307701-0003A</small>	Wall Rt Side of Stage - Plaster	Tan Non-Fibrous Homogeneous		20% Quartz 20% Ca Carbonate 60% Non-fibrous (Other)	None Detected
CC-A-04-Skim Coat <small>292307701-0004</small>	4th Window Right Side - Plaster	White Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
CC-A-04-Base Coat <small>292307701-0004A</small>	4th Window Right Side - Plaster	Gray Non-Fibrous Homogeneous		20% Quartz 10% Ca Carbonate 70% Non-fibrous (Other)	None Detected
CC-A-05-Skim Coat <small>292307701-0005</small>	2nd Window Left - Plaster	White Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected
CC-A-05-Base Coat <small>292307701-0005A</small>	2nd Window Left - Plaster	Gray Non-Fibrous Homogeneous	<1% Cellulose	20% Quartz 20% Ca Carbonate 60% Non-fibrous (Other)	None Detected
CC-B-01 <small>292307701-0006</small>	Doorway - Left side - Black Mastic	Brown/Various Fibrous Homogeneous	3% Cellulose 2% Synthetic	10% Ca Carbonate 10% Matrix 75% Non-fibrous (Other)	None Detected
CC-B-02 <small>292307701-0007</small>	Doorway - Right Side - Black Mastic	Brown/Black Fibrous Homogeneous	5% Cellulose 3% Synthetic	5% Ca Carbonate 87% Non-fibrous (Other)	None Detected
CC-C-01 <small>292307701-0008</small> <i>Inseparable glue & leveling compound.</i>	Doorway - Left Side - Carpet Glue	Gray/Yellow Non-Fibrous Homogeneous	<1% Cellulose <1% Synthetic	10% Ca Carbonate 10% Matrix 80% Non-fibrous (Other)	None Detected
CC-C-02 <small>292307701-0009</small>	Doorway to Lobby - Carpet Glue	Tan/Beige Non-Fibrous Homogeneous	<1% Cellulose <1% Synthetic	100% Non-fibrous (Other)	None Detected
CC-D-01 <small>292307701-0010</small>	Doorway on Left Side - Leveling Compound	White Non-Fibrous Homogeneous		55% Ca Carbonate 45% Non-fibrous (Other)	None Detected
CC-D-02 <small>292307701-0011</small>	Doorway on Right Side - Leveling Compound	White Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (Other)	None Detected

Initial report from: 10/10/2023 15:30:43



EMSL Analytical, Inc.

2500 Gateway Centre Blvd., Suite 600 Morrisville, NC 27560

Tel/Fax: (919) 465-3900 / (919) 465-3950

<http://www.EMSL.com> / raleighlab@emsl.com

EMSL Order: 292307701

Customer ID: SMEI60

Customer PO: 22050425

Project ID:

Analyst(s)

Joshua Moorman (7)

Roxsee Stover (8)

Billy Barnes, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Morrisville, NC NVLAP Lab Code 200671-0, VA 3333 000278, WVA LT000296

Initial report from: 10/10/2023 15:30:43



Asbestos Bulk Building Material

Client: S&ME, Inc. Test: PLM
 Order: 292307701 Project: CC Spaulding
 Disposition: Discard after 11/5/2023

#Samples: 11

C 27560
 165-3900
 165-3950

Company: S&ME, Inc.		EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 3201 Spring Forest Road		Third Party Billing requires written authorization from third party	
City: Raleigh	State/Province: NC	Zip/Postal Code: 27616	Country: US
Report To (Name): Jo Martin		Telephone #: (919) 872-2660	
Email Address: jmartin@smeinc.com		Fax #: (919) 876-3958	Purchase Order: 22050425
Project Name/Number: CC Spaulding		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail	
U.S. State Samples Taken: NC		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

3 Hour 6 Hour 24 Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule. There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PLM - Bulk (reporting limit)		TEM - Bulk	
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)	<input type="checkbox"/> PLM EPA NOB (<1%)	<input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1	<input type="checkbox"/> NY ELAP Method 198.4 (TEM)
Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)	<input type="checkbox"/> NIOSH 9002 (<1%)	<input type="checkbox"/> Chatfield Protocol (semi-quantitative)	<input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2
Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)	<input type="checkbox"/> NY ELAP Method 198.1 (friable in NY)	<input type="checkbox"/> TEM Qualitative via Filtration Prep Technique	<input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique
<input type="checkbox"/> NY ELAP Method 198.6 NOB (non-friable-NY)	<input type="checkbox"/> OSHA ID-191 Modified	Other	
<input type="checkbox"/> Standard Addition Method	<input type="checkbox"/>		

Check For Positive Stop - Clearly Identify Homogenous Group Date Sampled: 10-6-2023

Samplers Name: Jo Martin, James Waters

Samplers Signature:

Sample #	HA #	Sample Location	Material Description
CC-A-01	CC-A	1 st window left of stage	Plaster
CC-A-02	CC-A	Vestibule left of stage	↓
CC-A-03	CC-A	Wall rt side of stage	
CC-A-04	CC-A	4 th window right side	
CC-A-05	CC-A	2 nd window left	
CC-B-01	CC-B	Doorway - left side	
CC-B-02	CC-B	Doorway - right side	" "
CC-C-01	CC-C	Doorway left side	Carpet glue
CC-C-02	CC-C	Doorway to lobby	" "

Client Sample # (s):	-	Total # of Samples:	
Relinquished (Client):	J Martin	Date: 10/6/23	Time: 1238
Received (Lab):	BIS	Date: 10/6/23	Time: 12:40
Comments/Special Instructions:			
Invoice to: smeinc_invoice@conkursolutions.com			



EMSL Analytical, Inc.

2500 Gateway Centre Blvd., Suite 600 Morrisville, NC 27560

Tel/Fax: (919) 465-3900 / (919) 465-3950

<http://www.EMSL.com> / raleighlab@emsl.com

EMSL Order: 292308266

Customer ID: SMEI60

Customer PO: 22050425

Project ID:

Attention: Jo Martin
S&ME, Inc.
3201 Spring Forest Road
Raleigh, NC 27616

Phone: (919) 872-2660

Fax: (919) 790-9827

Received Date: 10/25/2023 5:05 PM

Analysis Date: 10/26/2023

Collected Date: 10/25/2023

Project: CC Spaulding

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CC-E-01 <small>292308266-0001</small>	Ceiling of Auditorium - Ceiling Tile	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
CC-E-02 <small>292308266-0002</small>	Ceiling of Auditorium - Ceiling Tile	White Fibrous Homogeneous	85% Cellulose	5% Ca Carbonate 10% Non-fibrous (Other)	None Detected
CC-F-01 <small>292308266-0003</small> <i>HA F sample group is not homogeneous.</i>	Ceiling of Auditorium - Black Mastic/Pucks	Brown Fibrous Homogeneous	<1% Cellulose	5% Ca Carbonate 93% Non-fibrous (Other)	2% Chrysotile
CC-F-02 <small>292308266-0004</small>	Ceiling of Auditorium - Black Mastic/Pucks	Brown Non-Fibrous Homogeneous	<1% Cellulose <1% Wollastonite	5% Ca Carbonate 5% Matrix 90% Non-fibrous (Other)	None Detected
CC-G-01 <small>292308266-0005</small>	Ceiling of Auditorium - Cementitious Deck	Brown/Gray/White Fibrous Homogeneous	2% Cellulose	30% Ca Carbonate 10% Gypsum 58% Non-fibrous (Other)	None Detected
CC-G-02 <small>292308266-0006</small>	Ceiling of Auditorium - Cementitious Deck	Gray Fibrous Homogeneous	8% Cellulose	10% Quartz 25% Ca Carbonate 57% Non-fibrous (Other)	None Detected
CC-H-01 <small>292308266-0007</small>	Mastic Under Floor Tile	Brown/Black Fibrous Homogeneous	2% Cellulose	2% Ca Carbonate 93% Non-fibrous (Other)	3% Chrysotile

Analyst(s)

Joshua Moorman (4)

Roxsee Stover (3)

Billy Barnes, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Morrisville, NC NVLAP Lab Code 200671-0, VA 3333 000278, WVA LT000296

Initial report from: 10/26/2023 11:27:19



EMSL ANALYTICAL
LABORATORY PRODUCTS

Client: S&ME, Inc. Test: PLM
Order: 292308266 Project: CC Spaulding
Disposition: Discard after 11/24/2023

#Samples: 7

ANALYTICAL, INC.
WAY CENTRE
SUITE 600
NC 27560

PHONE: (919) 465-3900
FAX: (919) 465-3950

Company Name: <u>S&ME, Inc.</u>		EMSL Customer ID:	
Street: <u>3201 Spring Forest Rd</u>		City: <u>Raleigh</u>	State or Province: <u>NC</u>
Zip/Postal Code: <u>27616</u>	Country: <u>US</u>	Telephone #: <u>919-9546267</u>	Fax #:
Report To (Name): <u>JD Martin</u>		Please Provide Results via: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
email Address: <u>jmartin@smeinc.com</u>		Purchase Order Number: <u>22050425</u>	
Client Project ID: <u>CC Spaulding</u>		EMSL Project ID (internal use only):	
State or Province Collected: <u>NC</u>		CT only <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If bill to is different note instructions in comment. Third party billing requires written authorization from third party			
Turnaround Time (TAT) Options Please Check			
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input checked="" type="checkbox"/> 24 Hour	<input type="checkbox"/> 32 Hour* <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week
*32 Hour TAT available for select tests only, samples must be submitted by 11:30am. Please call ahead for large projects and/or turnaround times 6 hours or less.			
PLM - Bulk (reporting limit)		TEM - Bulk	
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)		<input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1	
<input type="checkbox"/> PLM EPA NOB (<1%)		<input type="checkbox"/> NY ELAP Method 198.4 non-friable - NY	
Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)		<input type="checkbox"/> Chatfield Protocol (semi-quantitative)	
Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)		<input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2	
<input type="checkbox"/> NIOSH 9002 (<1%)		<input type="checkbox"/> TEM Qualitative via Filtration Prep Technique	
<input type="checkbox"/> NY ELAP Method 198.1- friable - NY		<input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique	
<input type="checkbox"/> NY ELAP Method 198.6 NOB- non-friable - NY		Other tests (please specify)	
<input type="checkbox"/> NY ELAP Method 198.8- Vermiculite Surfacing Material		<input type="checkbox"/>	
<input type="checkbox"/> OSHA ID-191 Modified			
<input type="checkbox"/> EMSL Standard Addition Method			
<input type="checkbox"/> Positive Stop - Clearly Identify Homogenous Areas (HA)		Date Sampled: <u>10/25/2023</u>	
Sampler's Name: <u>James Waters</u>		Sampler's Signature: <u>J Martin for James Waters</u>	
Sample #	HA #	Sample Location	Material Description
<u>CC-E-01</u>	<u>E</u>	<u>Ceiling Tile of Auditorium</u>	<u>Ceiling Tile</u>
<u>CC-E-02</u>	<u>E</u>	<u>"</u>	<u>Ceiling Tile</u>
<u>CC-F-01</u>	<u>F</u>	<u> </u>	<u>* Black Mastic/Pucks</u>
<u>CC-F-02</u>	<u>F</u>	<u> </u>	<u>* Black Mastic 1 Pucks</u>
<u>CC-G-01</u>	<u>G</u>	<u> </u>	<u>Cementitious deck</u>
<u>CC-G-02</u>	<u>G</u>	<u> </u>	<u>cementitious deck</u>
Client Sample # (s): <u>CC-E-01 → CC-H-01</u>		Total # of Samples: <u>7</u>	
Relinquished by (Client): <u>J Martin</u>		Date: <u>10/25/23</u>	Time: <u>1708</u>
Received by (Lab): <u>J</u>		Date: <u>10/25/23</u>	Time: <u>5:05</u>
Comments/Special Instructions: <u>* Black Mastic Material only</u>			



EMSL Analytical, Inc.

706 Gralin Street, Kernersville, NC 27284
Phone/Fax: (336) 992-1025 / (336) 992-4175
<http://www.EMSL.com> kernersvillelab@emsl.com

EMSL Order: 022306950
CustomerID: SMEI60
CustomerPO:
ProjectID:

Attn: **Jo Martin**
S&ME, Inc.
3201 Spring Forest Road
Raleigh, NC 27616

Phone: (919) 872-2660
Fax: (919) 790-9827
Received: 10/9/2023 09:00 AM
Collected: 10/6/2023

Project: **CC Spaulding**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
CC-L-01	022306950-0001	10/6/2023	10/11/2023	.2904 g	0.14 % wt
CC-L-02	022306950-0002	10/6/2023	10/11/2023	.3676 g	0.061 % wt
CC-L-03	022306950-0003	10/6/2023	10/11/2023	.2038 g	0.056 % wt

James Cole, Laboratory Manager
or other approved signatory

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* Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.
Samples analyzed by EMSL Analytical, Inc. Kernersville, NC AIHA LAP, LLC-ELLAP Accredited #102564

Initial report from 10/14/2023 15:34:24



Lead (Pb) Chain of Custody

EMSL Order ID (Lab Use Only)

022306950

Kernersville, NC 27284

PHONE: (336) 992-1025

FAX: (336) 992-4175

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Company : S&ME, Inc.		EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different # Bill to is Different note instructions in Comments**	
Street: 3201 Spring Forest Road		Third Party Billing requires written authorization from third party	
City: Raleigh	State/Province: NC	Zip/Postal Code: 27616	Country: US
Report To (Name): Jo Martin		Telephone #: (919) 971-9428	
Email Address: jmartin@smeinc.com		Fax #: (919) 876-3958	Purchase Order: 22050425
Project Name/Number: CC Spaulding		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken: NC		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips <input checked="" type="checkbox"/> % by wt. <input type="checkbox"/> mg/cm ² <input type="checkbox"/> ppm (mg/kg)	SW846-7000B	Flame Atomic Absorption	0.01%	<input checked="" type="checkbox"/>
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	<input type="checkbox"/>
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	<input type="checkbox"/>
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter	<input type="checkbox"/>
Wipe* ASTM <input type="checkbox"/> non ASTM <input type="checkbox"/> <i>*If no box checked, non-ASTM Wipe assumed</i>	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	<input type="checkbox"/>
	SW846-6010B or C	ICP-OES	1.0 µg/wipe	<input type="checkbox"/>
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
TTLIC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	<input type="checkbox"/>
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	<input type="checkbox"/>
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	<input type="checkbox"/>
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	<input type="checkbox"/>
Wastewater Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	<input type="checkbox"/>
Drinking Water Unpreserved <input type="checkbox"/> Preserved with HNO ₃ pH < 2 <input type="checkbox"/>	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	<input type="checkbox"/>
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	<input type="checkbox"/>
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	<input type="checkbox"/>
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	<input type="checkbox"/>
Other:				<input type="checkbox"/>

Name of Sampler: Jo Martin, James Waters		Signature of Sampler:	
Sample #	Location	Volume/Area	Date/Time Sampled
CC-L-01	Walls, (off-white, green)	~ 2 in ²	10/6/23
CC-L-02	Baseboard (Brown, lt green, blue)	"	10/6/23
Client Sample #s	CC-L-01 → CC-L-03	Total # of Samples:	
Relinquished (Client):	<i>Jo Martin</i>	Date: 10/6/23	Time: 1231
Received (Lab):	<i>[Signature]</i>	Date: 10/5/23	Time: 2:40 /
Comments: <i>JS</i> <i>10-9-23</i> <i>gan</i>			
[Invoice to smeinc_invoice@concur solutions.com]			



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING
EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID (Lab Use Only):
[]

EMSL Analytical, Inc.
706 Gralin Street

Kernersville, NC 27284

PHONE: (336) 992-1025
FAX: (336) 992-4175

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
CC-L-03	Trim (Blue)	~ 2 in ²	10/6/23
Comments/Special Instructions:			

Appendix IV – Asbestos Credentials



NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK T. BENTON • Deputy Secretary for Health
SUSAN KANSANGRA • Assistant Secretary for Public Health
Division of Public Health

December 22, 2022

James Waters
2005 Birdhouse Lane
Wake Forest, NC 27587

Dear Mr. Waters:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) INSPECTOR. Your assigned North Carolina accreditation number is 13221, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Inspector accreditation will expire on DECEMBER 31, 2023. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Inspector after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to December 31, 2023. If you should continue to perform asbestos management activities as a(n) Inspector without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.



James Waters
2005 Birdhouse Lane
Wake Forest, NC 27587

138510

North Carolina Asbestos Accreditation

Table with accreditation details: EXPIRATION 12-31-2023, DOB 04-22-1984, SEX M, HT 6'3", WT 200, CLASS # EXP, AIR MONITOR 80968 12-23, INSPECTOR 13221 12-23

Sincerely,

Ed Norman (signature)

Ed Norman
Program Manager
Health Hazards Control Unit

Enclosure

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES . DIVISION OF PUBLIC HEALTH

LOCATION: 5505 Six Forks Road, Building 1, Raleigh, NC 27609
MAILING ADDRESS: 1912 Mail Service Center, Raleigh, NC 27699-1912
www.ncdhhs.gov . TEL: 919-707-5950 . FAX: 919-870-4808



AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER



NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK T. BENTON • Deputy Secretary for Health
SUSAN KANSANGRA • Assistant Secretary for Public Health
Division of Public Health

Resending 10/24

October 3, 2023

Josephine K Martin
3037 Austin Dr
Garner, NC 27529

Dear Ms. Martin:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) INSPECTOR. Your assigned North Carolina accreditation number is 12580, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Inspector accreditation will expire on SEPTEMBER 30, 2024. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Inspector after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to September 30, 2024. If you should continue to perform asbestos management activities as a(n) Inspector without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman

Ed Norman
Program Manager
Health Hazards Control Unit

North Carolina Asbestos Accreditation



Josephine K Martin
3037 Austin Dr
Garner, NC 27529

Table with accreditation details: EXPIRATION 09-30-2024, DOB 09-04-1963, SEX F, HT 5'3", WT 148, CLASS # EXP, DESIGNER 40509 12-23, INSPECTOR 12580 09-24, MGMT PLANNER 20951 09-24

141702

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES . DIVISION OF PUBLIC HEALTH

LOCATION: 5505 Six Forks Road, Building 1, Raleigh, NC 27609
MAILING ADDRESS: 1912 Mail Service Center, Raleigh, NC 27699-1912
www.ncdhhs.gov . TEL: 919-707-5950 . FAX: 919-870-4808



AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER



NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK T. BENTON • Deputy Secretary for Health
SUSAN KANSANGRA • Assistant Secretary for Public Health
Division of Public Health

January 17, 2023

Josephine K Martin
3201 Spring Forest Rd
Raleigh, NC 27616

Dear Ms. Martin:

Based upon the review of your accreditation application, the Health Hazards Control Unit (HHCU) has determined that you have fulfilled the requirements and are eligible for asbestos accreditation as a(n) ABATEMENT PROJECT DESIGNER. Your assigned North Carolina accreditation number is 40509, which is reflected on your enclosed North Carolina Accreditation card. Please be sure to take this card with you to any asbestos work site where you are employed. The State requires that all persons conducting asbestos abatement or asbestos management activities be accredited and have their identification card on site.

Your North Carolina Abatement Project Designer accreditation will expire on DECEMBER 31, 2023. It is NOT the policy of the HHCU to issue renewal notices. If you wish to continue working as a(n) Abatement Project Designer after this expiration date, you must successfully complete the required training and submit a completed application to this office prior to December 31, 2023. If you should continue to perform asbestos management activities as a(n) Abatement Project Designer without a valid North Carolina accreditation, you will be in violation of State regulations and may be cited for noncompliance.

Sincerely,

Ed Norman (handwritten signature)

Ed Norman
Program Manager
Health Hazards Control Unit



Josephine K Martin
3201 Spring Forest Rd
Raleigh, NC 27616

138691

North Carolina Asbestos Accreditation

Table with accreditation details: EXPIRATION 12-31-2023, DOB 09-04-1963, SEX F, HT 5'3", WT 147, CLASS DESIGNER # 40509 EXP 12-23, INSPECTOR # 12580 EXP 09-23, MGMT PLANNER # 20951 EXP 09-23

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES . DIVISION OF PUBLIC HEALTH

LOCATION: 5505 Six Forks Road, Building 1, Raleigh, NC 27609
MAILING ADDRESS: 1912 Mail Service Center, Raleigh, NC 27699-1912
www.ncdhhs.gov . TEL: 919-707-5950 . FAX: 919-870-4808



AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

Appendix V – Work Plan for Installation of Metal Hangars



Work Plan for CC Spaulding Elementary School Auditorium Ceiling

Background

In preparation for the upcoming renovations in the Auditorium at CC Spaulding Elementary School, an asbestos and lead in paint assessment was conducted by S&ME, Inc. (S&ME) on October 6 and 25, 2023. The elementary school contains a gymnasium, auditorium, classrooms ranging from grades K-5, cafeteria, and administrative offices. The pre-abatement assessment included the Auditorium only.

Homogeneous areas (HA) suspected of containing asbestos were identified and sampled in the Auditorium during the October 2023 sampling. Eighteen bulk samples of suspect asbestos-containing materials (ACM) were collected as part of the limited asbestos assessment. Identified ACM during the October 2023 assessment and previously identified ACM included in the Asbestos Hazard Emergency Response Act (AHERA) Management Plan (auditorium only), will be abated by an accredited and licensed abatement contractor following the Asbestos Abatement Specification provided to Bute PLLC and Durham Public Schools.

One of the identified ACM during the October 2023 assessment is black mastic pucks (Homogeneous Area- HA -F) that adhere the existing one-foot by one-foot ceiling tiles to the concrete deck. The black mastic pucks will remain in place and not be disturbed during abatement and renovation activities.

This Work Plan provides methods to the general contractor for performing work involving the existing ceiling that will not disturb the black mastic pucks. *The Work Plan is not considered an asbestos abatement specification and the work to install the hangars into the ceiling is not considered asbestos abatement.*

The replacement ceiling is scheduled to be a suspended ceiling installed beneath the existing ceiling. The work involving the installation of metal hangars for the new ceiling, through the existing ceiling tiles, and into the concrete deck and joists may be performed by the General Contractor (GC) if the ACM mastic pucks are not disturbed. The GC must review the plans for the new ceiling and agree to install the hangars at seams or at corners where the existing ceiling tiles meet.

Auditorium Ceiling

The existing one-foot by one-foot ceiling tiles in the auditorium are scheduled to remain in place with a new suspended ceiling to be installed beneath the existing ceiling. The existing ceiling tiles are adhered to the concrete deck via mastic pucks. The ceiling tiles are non-asbestos, and the mastic pucks contain 2% Chrysotile asbestos.

The mastic pucks are not scheduled for abatement and steps must be followed to not disturb the mastic pucks during work that involves the existing ceiling. For installation of the new suspended ceiling system, screws will be installed through existing ceiling tiles and concrete deck, into the bottom flange of the joists.

The work involving the installation of hangars into the ceiling tiles, concrete deck and joists may be performed by the General Contractor (GC) using a method that will not disturb the ACM mastic pucks and therefore not considered asbestos abatement. To avoid disturbance of the ACM mastic pucks, the



hangars must be installed at the seams between ceiling tiles. The work shall be performed after the negative pressure containment has been removed by the abatement contractor.

Planning and Preparation

- The General Contractor (GC) will review the plans for the installation of the new ceiling materials and components and schedule a visit to the school to view the auditorium and ceiling.
- New ceiling tiles are presumed to be two feet by two feet, with drilling into the joists at four-foot centers.
- The GC will devise a system of spacing the hangars that will allow for the installation of the hangars in a way that meets the requirements for construction quality assurance and does not disturb the mastic pucks.
- The GC will mark the recommended locations on the ceiling, for drilling and installation of hangars at seams between the one-foot by one-foot ceiling tiles. Marking method will be such that it is clear where to drill and install the metal hangars and the locations must be at seams or corners where ceiling tiles meet.
- The GC will coordinate the work with the abatement contractor and perform the marking and installation of hangars after abatement is completed and the negative pressure containment has been removed.

Installation of Metal Hangars

- The Contractor shall install metal hangars into the deck using methods that minimize creation of dust.
- A team (or teams) having a minimum of two persons is required to perform the installation of hangars into the ceiling using a scissor lift, scaffold system or similar elevated work platform. One team member shall be present at all times at floor level, to assist and act as spotters, as required.
- Wet methods may be used when drilling through the ceiling tile at the seams to avoid creating dust.
- A HEPA vacuum must be available to promptly vacuum dust or debris generated during the installation of hangars and disturbance of ceiling tiles.
- Clean all surfaces in the work area including the elevated work platform, using a HEPA filtered vacuum.
- Should sections of ceiling tile break off or fall, they shall be packed into sealable plastic bags (6-mil minimum). Each bag shall be individually sealed.

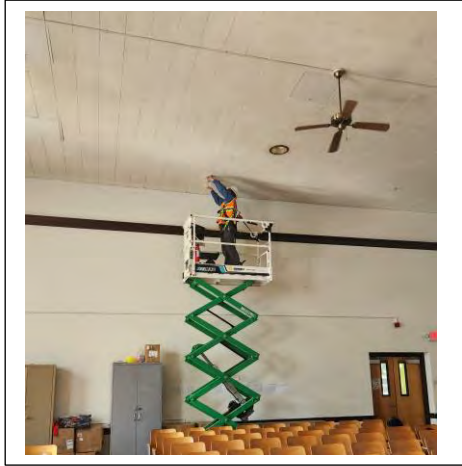
Limitations

This Work Plan is provided for the sole use of the Bute PLLC, Durham Public Schools and the general contractor. Use of this report by any other parties will be at such party's sole risk, and S&ME disclaims liability for any such use or reliance by third parties.

The Work Plan is not considered an asbestos abatement specification and the work to install the hangars into the ceiling is not considered asbestos abatement.



Photos of ceiling



Overall view of Auditorium Ceiling



Closeup view of mastic pucks

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Auditorium Renovations CC Spaulding Elementary, Main Bldg
Address: 1531 S Roxboro St. Durham NC 27707
Owner/Authorized Agent: Durham Public Schools (919) 569-2504
Zip Code: _____ E-Mail: bernard.hall@dpsn.net
Owned By: _____ City/County: _____ State: _____
Code Enforcement Jurisdiction: _____ City: _____ County: _____ State: _____

CONTACT:
DESIGNER FIRM: Bute, PLLC
NAME: Lindsey Bute
LICENSE #: NC 5824
TELEPHONE #: 919.491.9105
E-MAIL: lindsey@butepllc.com
CIVIL
Electrical: Edmondson Engineers, Dennis Hays, 28869 (919.544.1936, Dennis.hays@edmonds.com)
Fire Alarm: _____
Plumbing: _____
Mechanical: _____
Sprinkler-Standpipe: _____
Structural: Sarmiran, PLLC, James Czar, NC 29015 (919.241.8745, James@sarmiran.com)
Retaining Walls > 5' High: _____
Other: _____

2018 NC BUILDING CODE: [] New Building [] Addition [] Renovation
[] 1st Time Interior Completion
[] Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
[] Phased Construction - Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC EXISTING BUILDING CODE: EXISTING: [] Prescriptive [] Repair [] Chapter 14 Alteration: [] Level I [] Level II [] Level III
[] Historic Property
[] Change of Use

CONSTRUCTED: (date) 1954 CURRENT OCCUPANCY(S) (Ch. 3): E_A1, A2, A3
RENOVATED: (date) 1975, 2009 PROPOSED OCCUPANCY(S) (Ch. 3): E_A1, A2, A3

RISK CATEGORY (Table 1604.5): Current: [] I [] II [] III [] IV Proposed: [] I [] II [] III [] IV

BASIC BUILDING DATA
Construction Type: [] I-A [] II-A [] III-A [] IV [] V-A
[] I-B [] II-B [] III-B [] V-B
Sprinklers: [] No [] Partial [] Yes NFPA 13 NFPA 13R NFPA 13D
Standpipes: [] No [] Yes Class [] I [] II [] III [] Wet [] Dry
Fire District: [] No [] Yes Flood Hazard Area: [] No [] Yes
Special Inspections Required: [] No [] Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Table with 4 columns: FLOOR, EXISTING (SQ FT), NEW (SQ FT), SUB-TOTAL. Rows include 3rd Floor, 2nd Floor (23560), Mezzanine, 1st Floor (21536), Basement, and TOTAL (45096).

ALLOWABLE AREA
Primary Occupancy Classification(s):
Assembly [] A-1 [] A-2 [] A-3 [] A-4 [] A-5
Business []
Educational []
Factory [] F-1 Moderate [] F-2 Low
Hazardous [] H-1 Detonation [] H-2 Deflagrate [] H-3 Combust [] H-4 Health [] H-5 HPM
Institutional [] I-1 Condition [] I-2 [] I-3 Condition [] I-4
Mercantile [] R-1 [] R-2 [] R-3 [] R-4
Residential [] S-1 Moderate [] S-2 Low [] High-piled
Storage [] Parking Garage [] Open [] Enclosed [] Repair Garage
Utility and Miscellaneous []
Accessory Occupancy Classification(s): A1, A2, A3

Incidental Uses (Chapter 4 - List Code Sections):
Special Provisions (Chapter 5 - List Code Sections):
Mixed Occupancy: [] No [] Yes Separator: _____ Hr. Exception: _____
[] Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
[] Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.
Actual Area of Occupancy A + Actual Area of Occupancy B
Allowable Area of Occupancy A Allowable Area of Occupancy B ≤ 1.00

Table with 7 columns: STORY NO., DESCRIPTION AND USE, (A) BLDG AREA PER STORY (ACTUAL), (B) TABLE 506.2 AREA, (C) AREA FOR FRONTAGE INCREASES, (D) ALLOWABLE AREA PER STORY OR UNLIMITED, (E) ALLOWABLE AREA PER STORY OR UNLIMITED.

Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 1232 (F)
b. Total Building Perimeter = 1248 (P)
c. Ratio (F/P) = 98 (F/P)
d. W = Minimum width of public way = 30 (W)
e. Percent of frontage increase I = 100(F/P - 0.25) x W/30 = 73 (%)

ALLOWABLE HEIGHT
Table with 4 columns: ALLOWABLE, SHOWN ON PLANS, CODE REFERENCE. Rows include Building Height in Feet (Table 504.3) and Building Height in Stories (Table 504.4).

1 Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
2 The maximum height of air traffic control towers must comply with Table 412.3.1.
3 The maximum height of open parking garages must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS

Table with 8 columns: BUILDING ELEMENT, FIRE SEPARATION DISTANCE (FEET), RISK CATEGORY, RATING PROVIDED (WATER REDUCTION), DETAIL # AND SHEET #, DESIGN # FOR RATED ASSEMBLY, SHEET # FOR RATED PENETRATION, SHEET # FOR RATED JOINTS.

PERCENTAGE OF WALL OPENING CALCULATIONS

Table with 4 columns: FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES, DEGREE OF OPENING PROTECTION (TABLE 705.5), ALLOWABLE AREA (%), ACTUAL SHOWN ON PLANS (%).

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: [] No [] Yes
Exit Signs: [] No [] Yes
Fire Alarm: [] No [] Yes
Smoke Detection Systems: [] No [] Yes [] Partial
Carbon Monoxide Detection: [] No [] Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #:
[] Fire and/or smoke rated wall locations (Chapter 7)
[] Assumed and real property line locations (if not on the site plan)
[] Exterior wall opening area with respect to distance to assumed property lines (705.8)
[] Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
[] Occupant loads for each area
[] Exit access travel distances (1017)
[] Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
[] Dead end lengths (1020.4)
[] Clear exit widths for each exit door
[] Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
[] Actual occupant load for each exit door
[] A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
[] Location of doors with panic hardware (1010.1.10)
[] Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
[] Location of doors with electromagnetic egress locks (1010.1.9.9)
[] Location of doors equipped with hold-open devices
[] Location of emergency escape windows (1030)
[] The square footage of each fire area (202)
[] The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
[] Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

Table with 7 columns: TOTAL UNITS, ACCESSIBLE UNITS REQUIRED, ACCESSIBLE UNITS PROVIDED, TYPE A UNITS REQUIRED, TYPE A UNITS PROVIDED, TYPE B UNITS REQUIRED, TYPE B UNITS PROVIDED, TOTAL ACCESSIBLE UNITS PROVIDED.

ACCESSIBLE PARKING (SECTION 1106)

Table with 5 columns: LOT OR PARKING AREA, TOTAL # OF PARKING SPACES REQUIRED, # OF ACCESSIBLE SPACES PROVIDED (REGULAR WITH 5' ACCESSIBLE, VAN SPACES WITH 132' ACCESSIBLE, 8' ACCESSIBLE), TOTAL # ACCESSIBLE PROVIDED.

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

Table with 7 columns: USE, WATERCLOSING, MALE/FEMALE UNIBOX, URINALS, LAVATORIES, SINKS/TUBS, DRINKING FOUNTAINS, ACCESSIBLE.

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.
Existing building envelope complies with code: [] No [] Yes (The remainder of this section is not applicable)
Exempt Building: [] No [] Yes (Provide code or statutory reference): _____
Climate Zone: [] 3A [] 4A [] 5A
Method of Compliance: Energy Code [] Performance [] Prescriptive
ASHRAE 90.1 [] Performance [] Prescriptive (If "Other" specify source here.)

THERMAL ENVELOPE (Prescriptive method only)

Roof/Ceiling Assembly (each assembly)
Description of assembly: PVC membrane over rigid insulation, gypsum deck, steel structure
U-Value of total assembly: 0.03
R-Value of insulation: 28.8
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____
Exterior Walls (each assembly) Existing
Description of assembly: 12" masonry
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of assembly: _____
Solar heat gain coefficient: _____
projection factor: _____
Door R-Values: _____

Walls below grade (each assembly) Not applicable at Auditorium
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab located: _____

Floors over unconditioned space (each assembly) Not applicable at Auditorium
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade Not applicable at Auditorium
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab located: _____

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS STRUCTURAL DESIGN (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

Importance Factors: Snow (Is) 1.1, Seismic (Ie) 1.25
Live Loads: Roof 20 psf, Mezzanine 100 psf, Floor 100 psf
Ground Snow Load: 15 psf
Wind Load: Ultimate Wind Speed B 120 mph (ASCE-7), Exposure Category _____

SEISMIC DESIGN CATEGORY: [] A [] B [] C [] D
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) [] I [] II [] III [] IV
Spectral Response Acceleration Ss 15.3 %, S1 7.6 %
Site Classification (ASCE 7) [] A [] B [] C [] D [] E [] F
Data Source: [] Field Test [] Prescriptive [] Historical Data
Basic structural system [] Bearing Wall [] Dual w/Special Moment Frame [] Building Frame [] Dual w/Intermediate R/C or Special Steel [] Moment Frame [] Inverted Pendulum
Analysis Procedure: [] Simplified [] Equivalent Lateral Force [] Dynamic
Architectural, Mechanical, Components anchored? [] Yes [] No

LATERAL DESIGN CONTROL: Earthquake [] Wind []
SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS MECHANICAL DESIGN (PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

Thermal Zone winter dry bulb: _____, summer dry bulb: _____, relative humidity: _____
Interior design conditions winter dry bulb: _____, summer dry bulb: _____, relative humidity: _____
Building heating load: _____
Building cooling load: _____
Mechanical Spacing/Conditioning System
Unitary description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____
Boiler size category. If oversized, state reason: _____
Chiller size category. If oversized, state reason: _____
List equipment efficiencies: _____

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS ELECTRICAL DESIGN (PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT
Method of Compliance: Energy Code [] Performance [] Prescriptive
ASHRAE 90.1 [] Performance [] Prescriptive
Lighting schedule (each fixture type)
lamp type required in fixture _____
number of lamps in fixture _____
ballast type used in the fixture _____
total wattage per fixture _____
total interior wattage specified vs. allowed (whole building or space by space) _____
total exterior wattage specified vs. allowed _____
Additional Efficiency Package Options (When using the 2018 NCECC, not required for ASHRAE 90.1)
[] C406.2 More Efficient HVAC Equipment Performance
[] C406.3 Reduced Lighting Power Density
[] C406.4 Enhanced Digital Lighting Controls
[] C406.5 On-Site Renewable Energy
[] C406.6 Dedicated Outdoor Air System
[] C406.7 Reduced Energy Use in Service Water Heating

Auditorium Renovations
CC Spaulding Elementary
Durham Public Schools

BID SET March 7, 2024

Architect: Bute, PLLC
PO Box 2833
Durham, NC 27715
919.491.9105

Electrical Design: Edmondson Engineers PA
1920 Highway 54, Suite 700
Durham NC 27013
919.544.1936

Structural Design: Sarmiran, PLLC
PO Box 1378
Hillsborough, NC 27278
919.241.8745

Acoustic Design: Thornburn Assoc.
2500 Gateway Center Blvd, Suite 800
Morrisville, NC 27560
919.463.9995

Owner: Durham Public Schools
2011 Hamlin Road
Durham, NC 27704
919.560.2216

Index of Drawings:

- 1.0 Cover/Data Sheet
0.1 Schedules/Notes
1.0 Plan - Demolition
2.0 Plan - New Construction
3.0 Sections/Reflected Ceiling
4.0 Elevations/Details
5.0 Reflected Ceiling Plan
6.0 Details

- E1.0 Electrical Cover Sheet
E2.0 Electrical Demolition Plan
E3.0 Electrical Renovation Plan
E3.1 Lighting Plan

- TA-001 Sheet Index and Notes
TA-101 AV Floor Plan
TA-301 Sections and Elevations
TA-701 Coordination Details

These drawings are instruments of service and as such remain the property of the Architect. No copies or reproductions are permitted without the consent of the Architect. Upon completion of the work all drawings (except the contract copies) are to be returned to the Architect.

Cover/Data Sheet

Auditorium Renovations
CC Spaulding Elementary
School

Bute, PLLC No. 2205



Bute, PLLC

P.O. Box 2833
Durham, NC 27715
919.491.9105
lindsey@butepllc.com

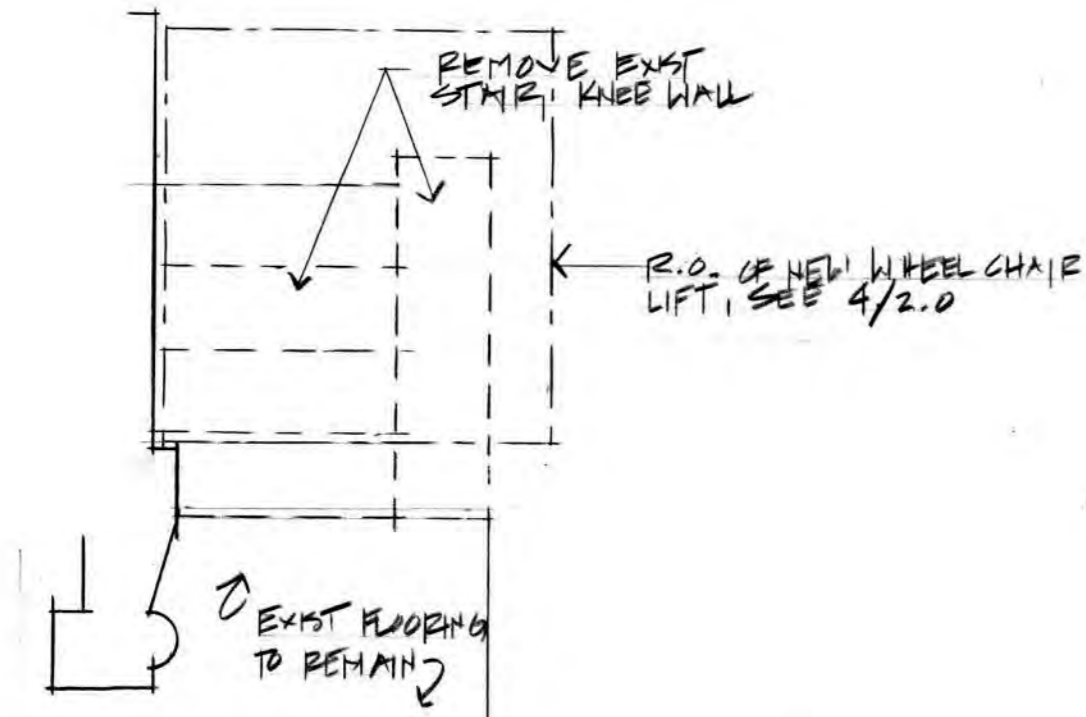
Date Bid Set March 7, 2024

Revisions _____

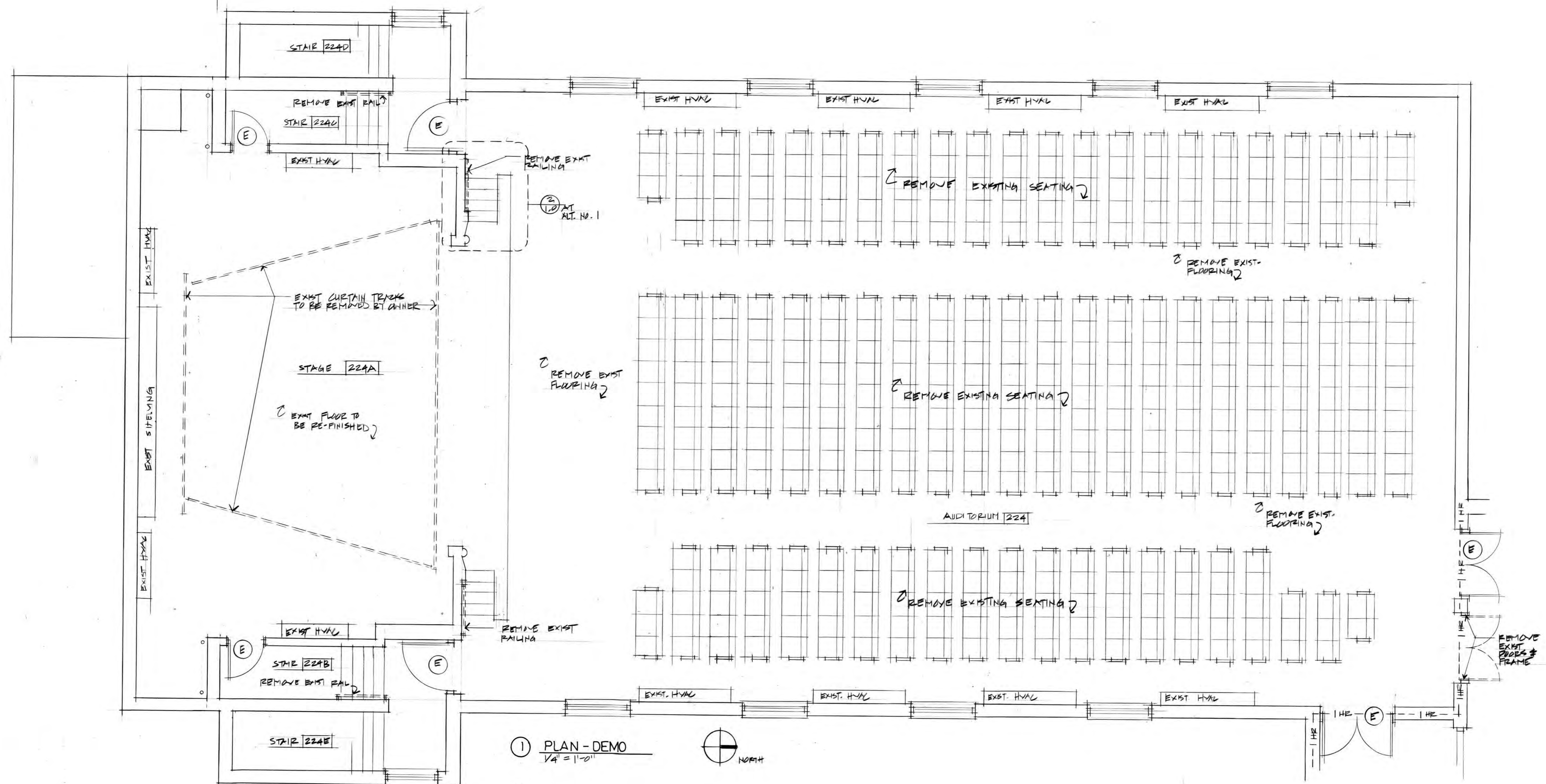
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DEMOLITION NOTES

1. PROTECT ALL EXIST. HVAC UNITS
2. SEE SPECIFICATIONS FOR ABATEMENT REQUIREMENTS



② ENLARGED PLAN - ALT. NO. 1
1/2" = 1'-0"



① PLAN - DEMO
1/4" = 1'-0"

Plan - Demolition

**Auditorium Renovations
CC Spaulding
Elementary
School**

**Durham Public
Schools**

Bute, PLLC No. 2205



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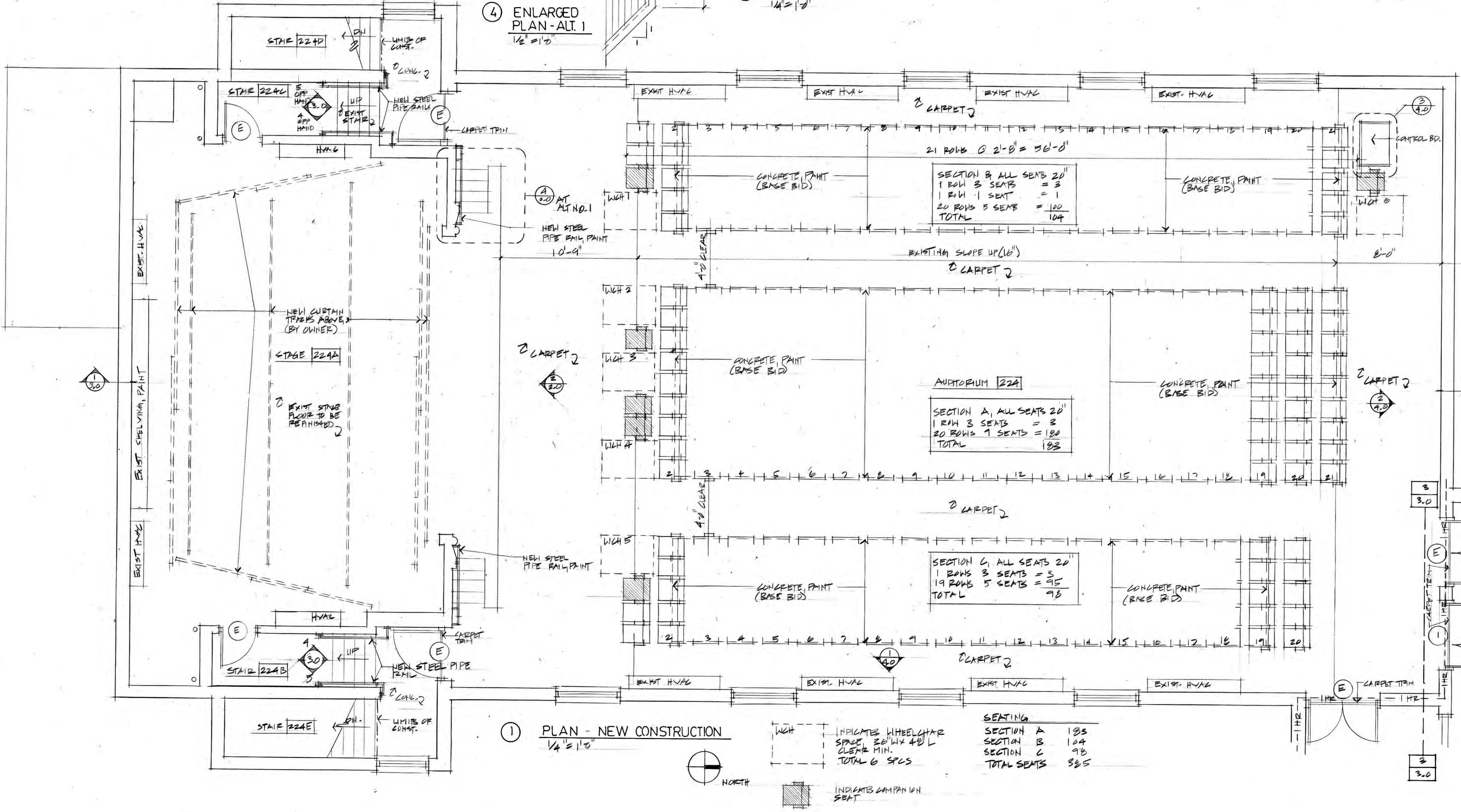
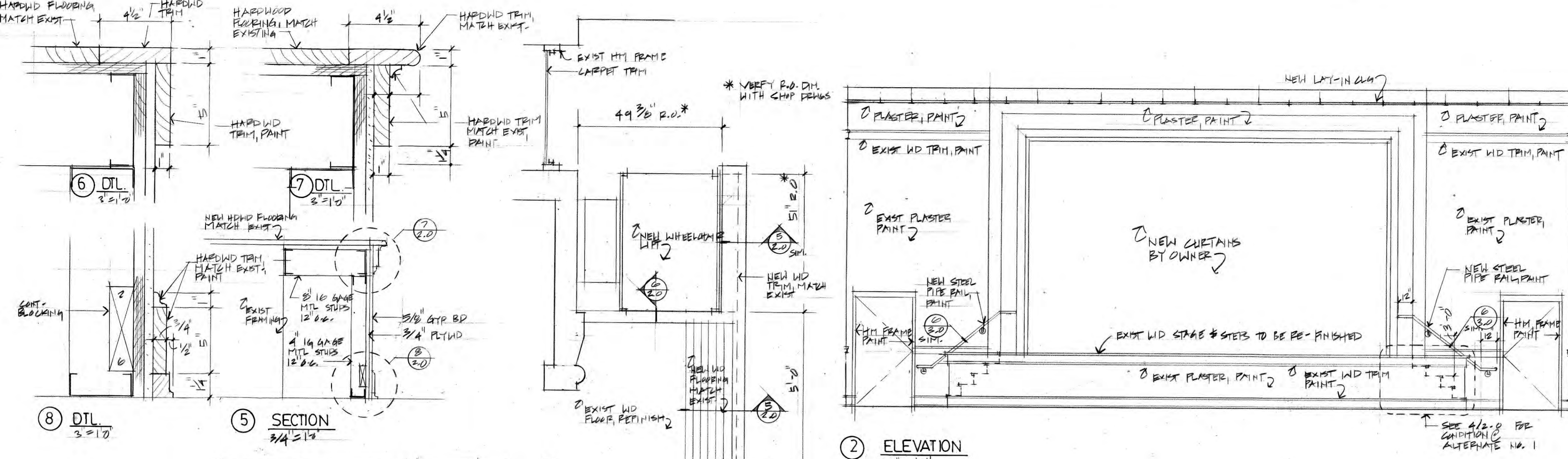
Revisions _____

Sheet 1.0

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Plan - New Construction

- GENERAL CONSTRUCTION NOTES**
1. INSTALL NEW BLINDS ON ALL WINDOWS IN AUDITORIUM 224
 2. EXACT LOCATION OF SEATING TO BE DETERMINED IN SHOP DETAILS.
 3. ALL EXIST HM DOOR FRAMES TO BE PAINTED.



Auditorium Renovations
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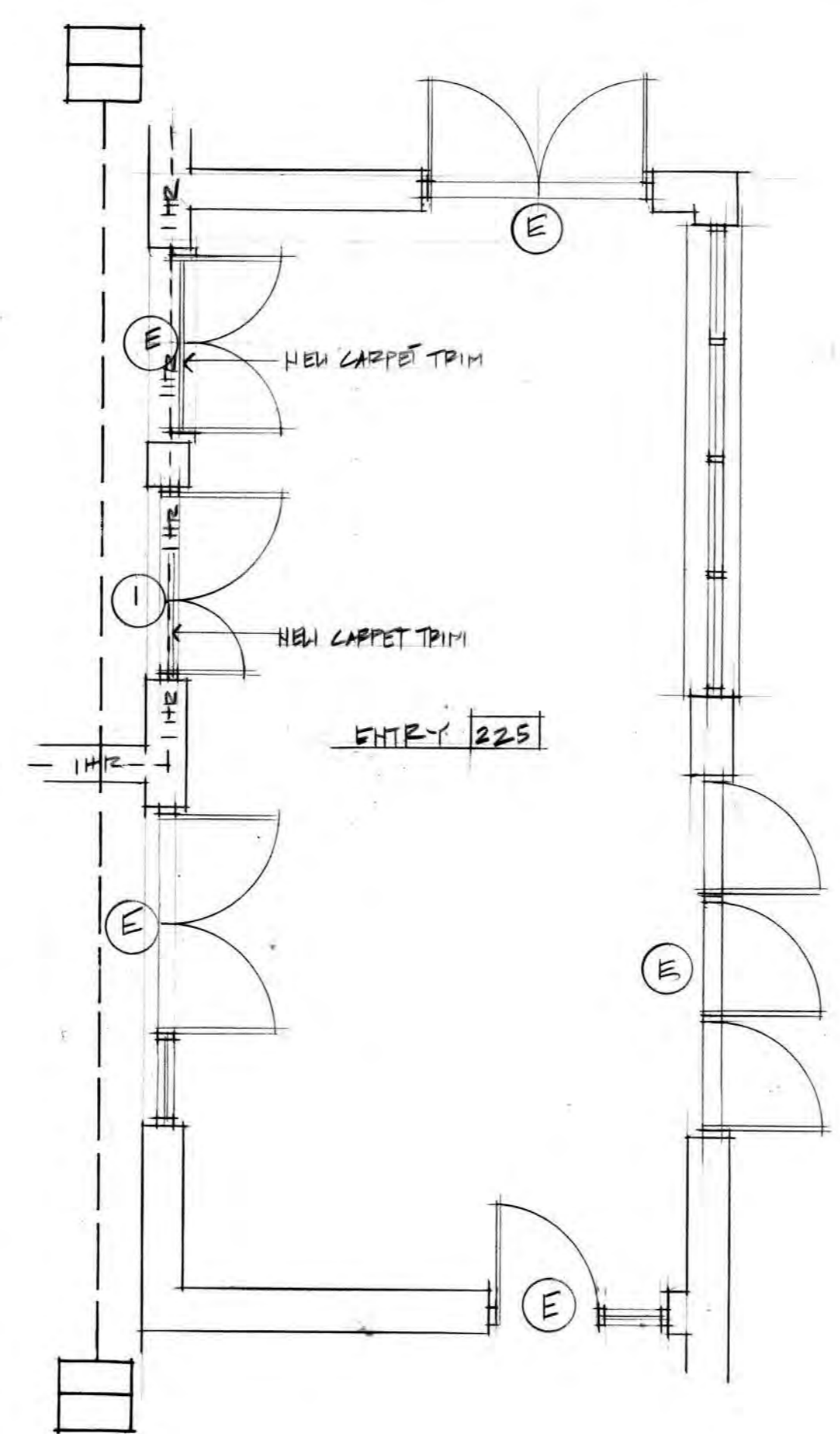
Date: Bid Set March 7, 2024

Revisions _____

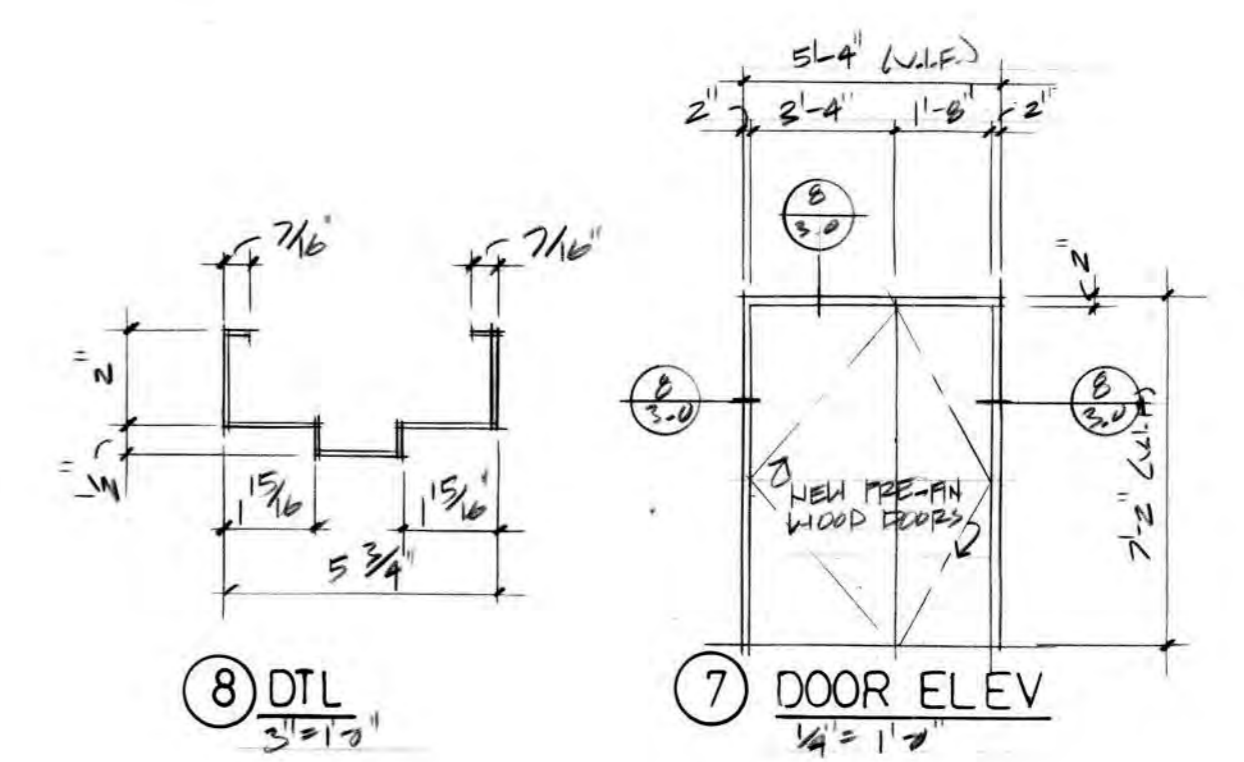
Sheet 2.0

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Sections, Reflected Ceiling

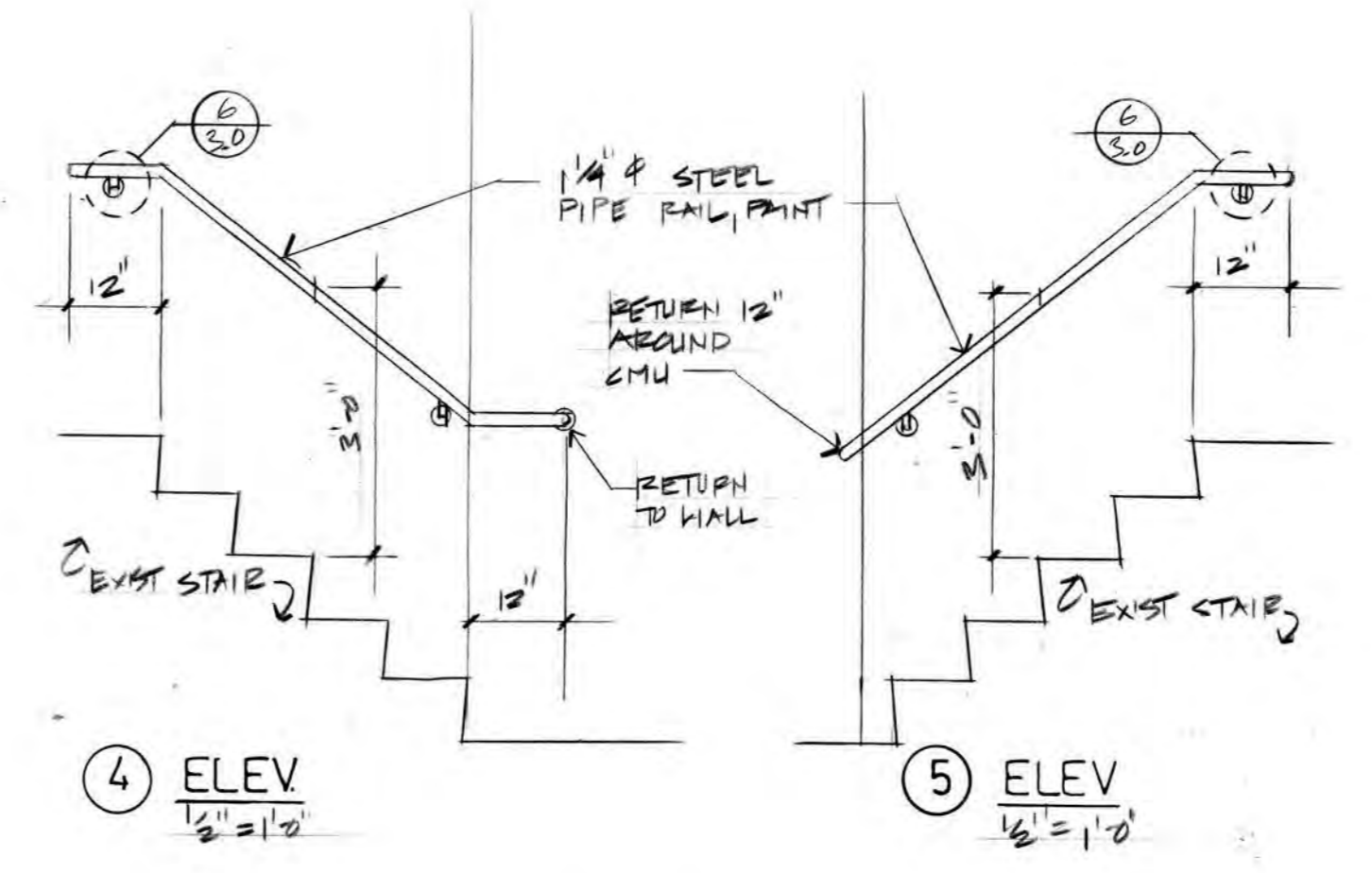


③ PLAN AT ENTRY 225
1/4" = 1'-0"



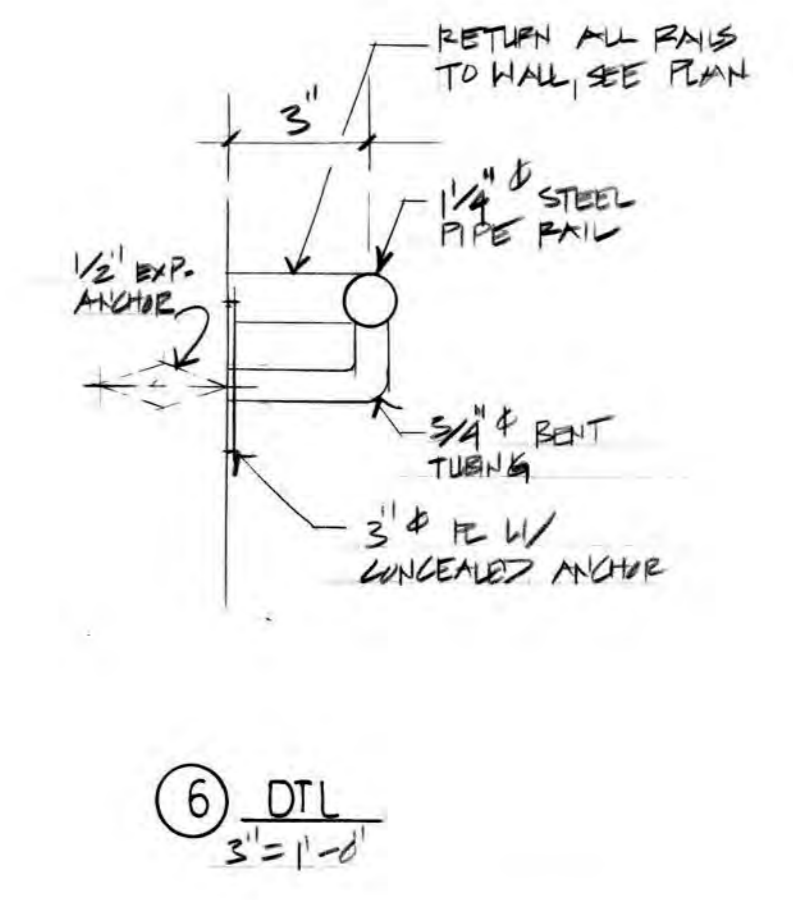
⑦ DOOR ELEV
1/4" = 1'-0"

⑧ DTL
3/8" = 1'-0"

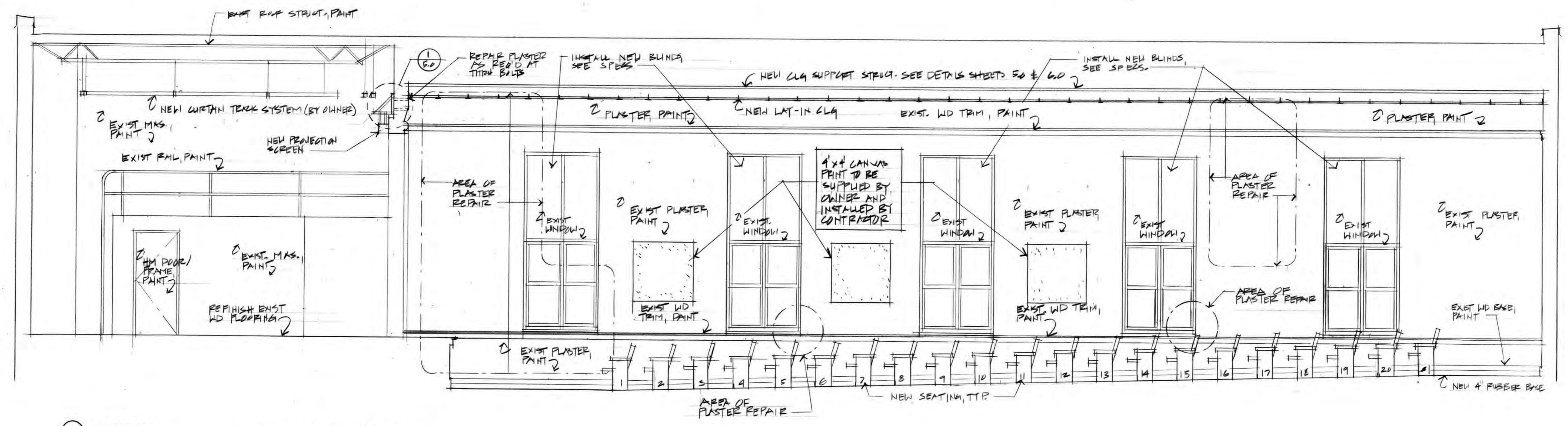


④ ELEV
1/2" = 1'-0"

⑤ ELEV
1/2" = 1'-0"



⑥ DTL
3/8" = 1'-0"



① SECTION
1/4" = 1'-0"

NOTE: REINFORCE EXIST ROOF JOISTS AT CURTAIN TRACK MOUNTING PER DTL 2/5.0

Auditorium Renovations
CC Spaulding Elementary School

Durham Public Schools

Bute, PLLC No. 2205

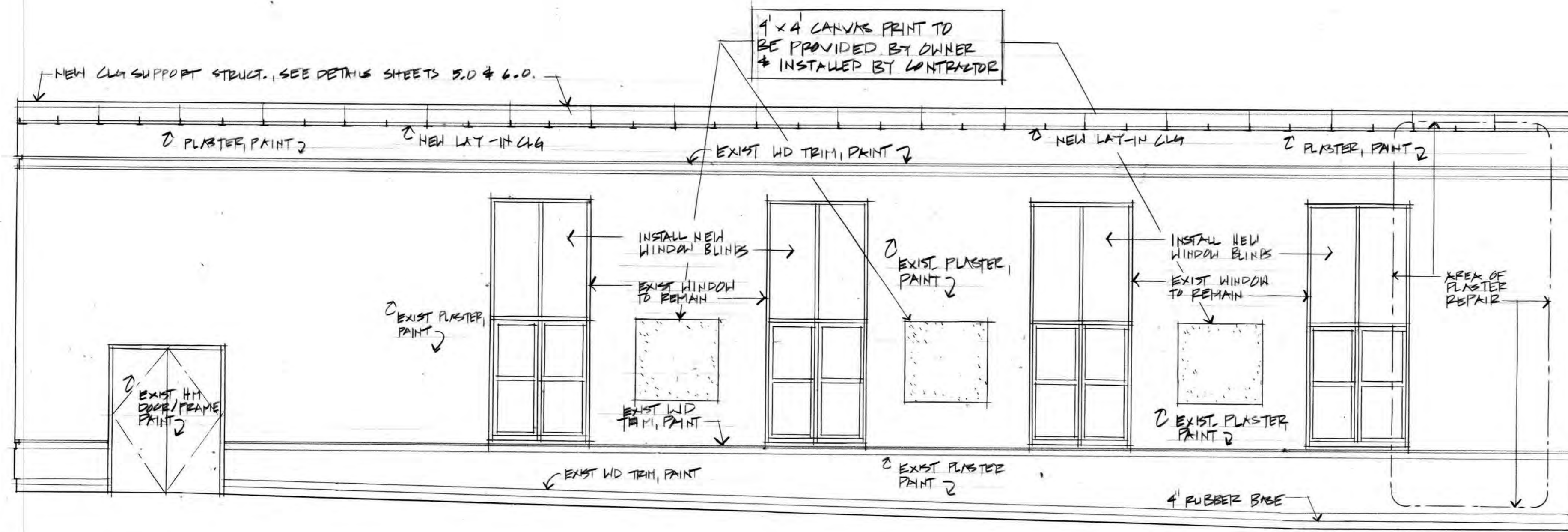


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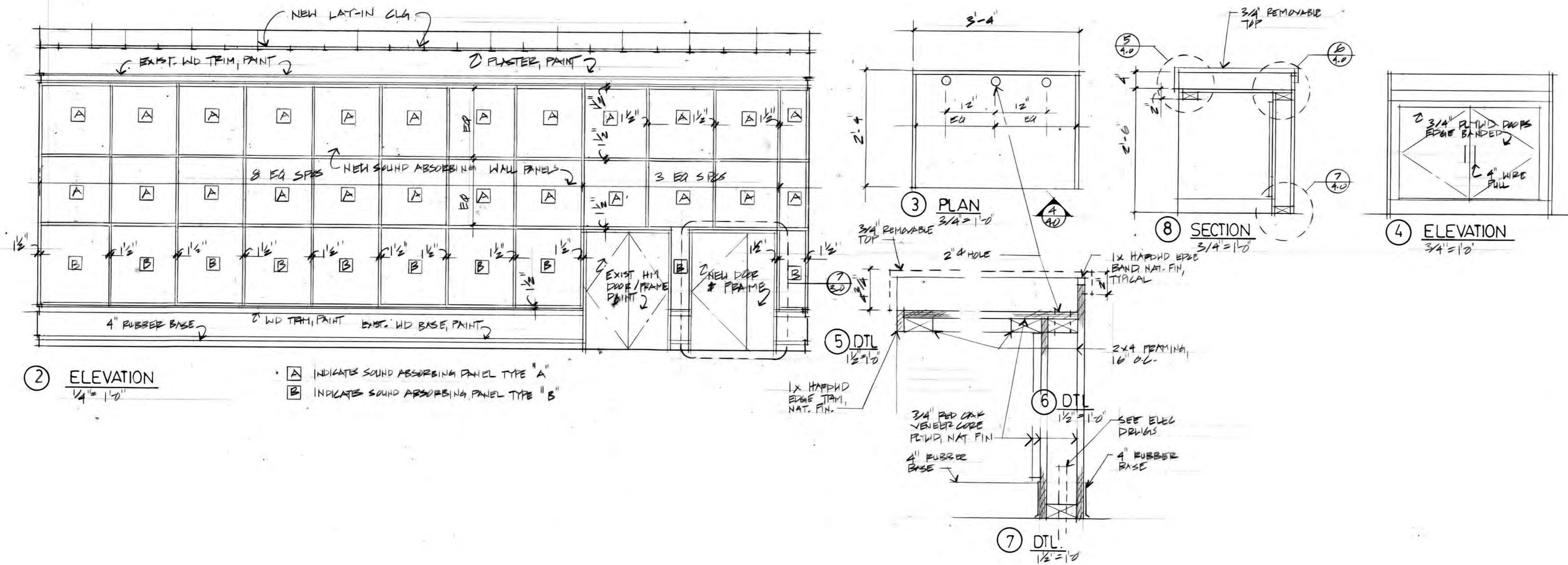
Date: Set 10/24/2024

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1 ELEVATION
1/4" = 1'-0"



2 ELEVATION
1/4" = 1'-0"

• [A] INDICATES SOUND ABSORBING PANEL TYPE "A"
• [B] INDICATES SOUND ABSORBING PANEL TYPE "B"

Elevations/Details

**Auditorium Renovations
CC Spaulding
Elementary
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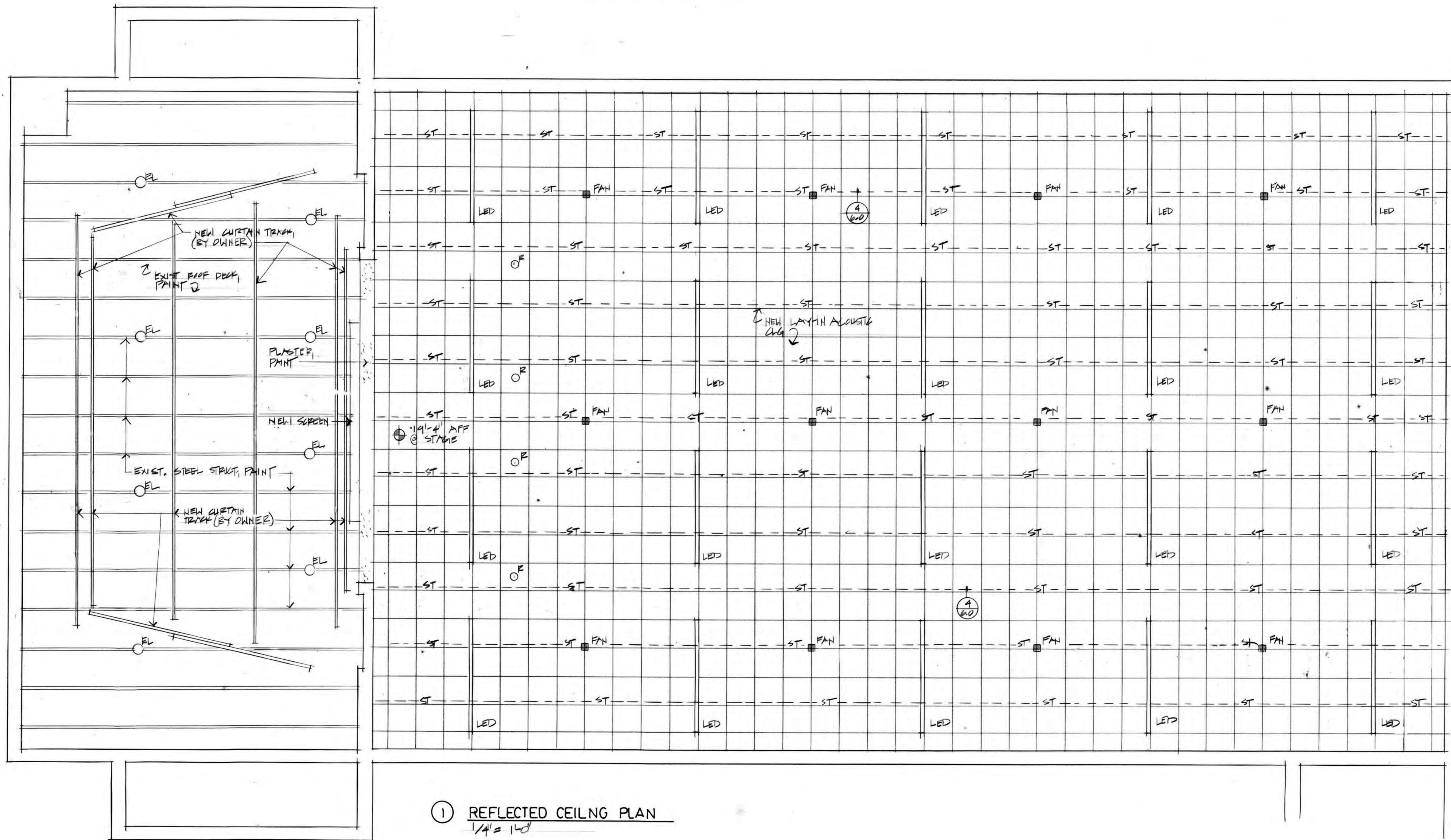
Revisions _____

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Reflected Ceiling Plan

LEGEND

- FAN NEW CEILING FAN, SEE ELEC. DRAWG
- EL EXIST. LIGHT TO REMAIN, SEE ELEC. DRAWG
- R NEW RECESSED LIGHT, SEE ELEC. DRAWG
- ST - NEW STRUCT. ABOVE, SEE SHEET 6.0
- || LED NEW LED FIXTURE, SEE ELEC. DRAWG



① REFLECTED CEILING PLAN
1/4" = 1'-0"

**Auditorium Renovations
CC Spaulding Elementary School**

Durham Public Schools

Bute, PLLC No. 2205

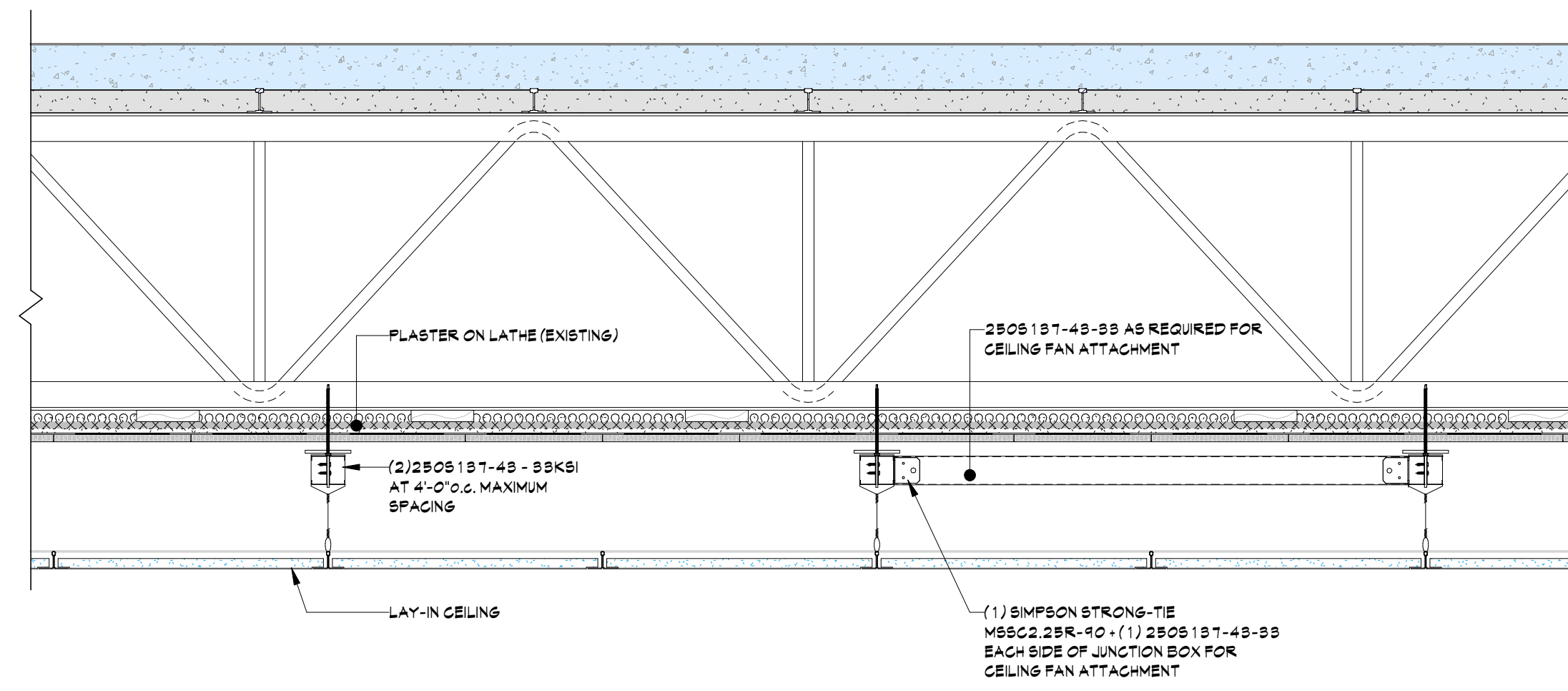


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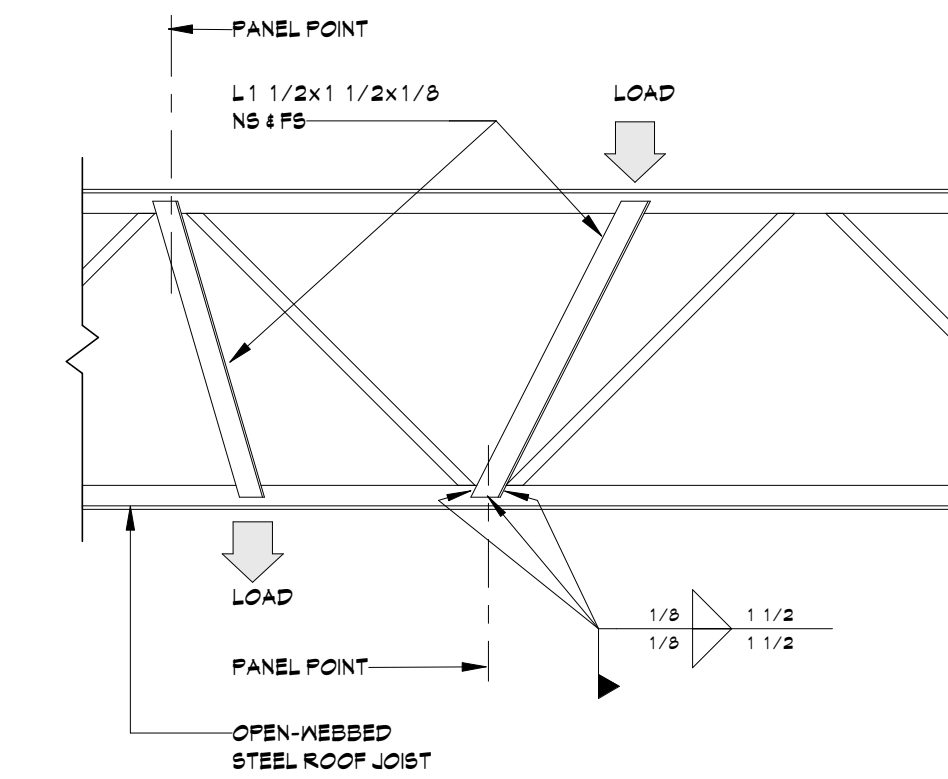
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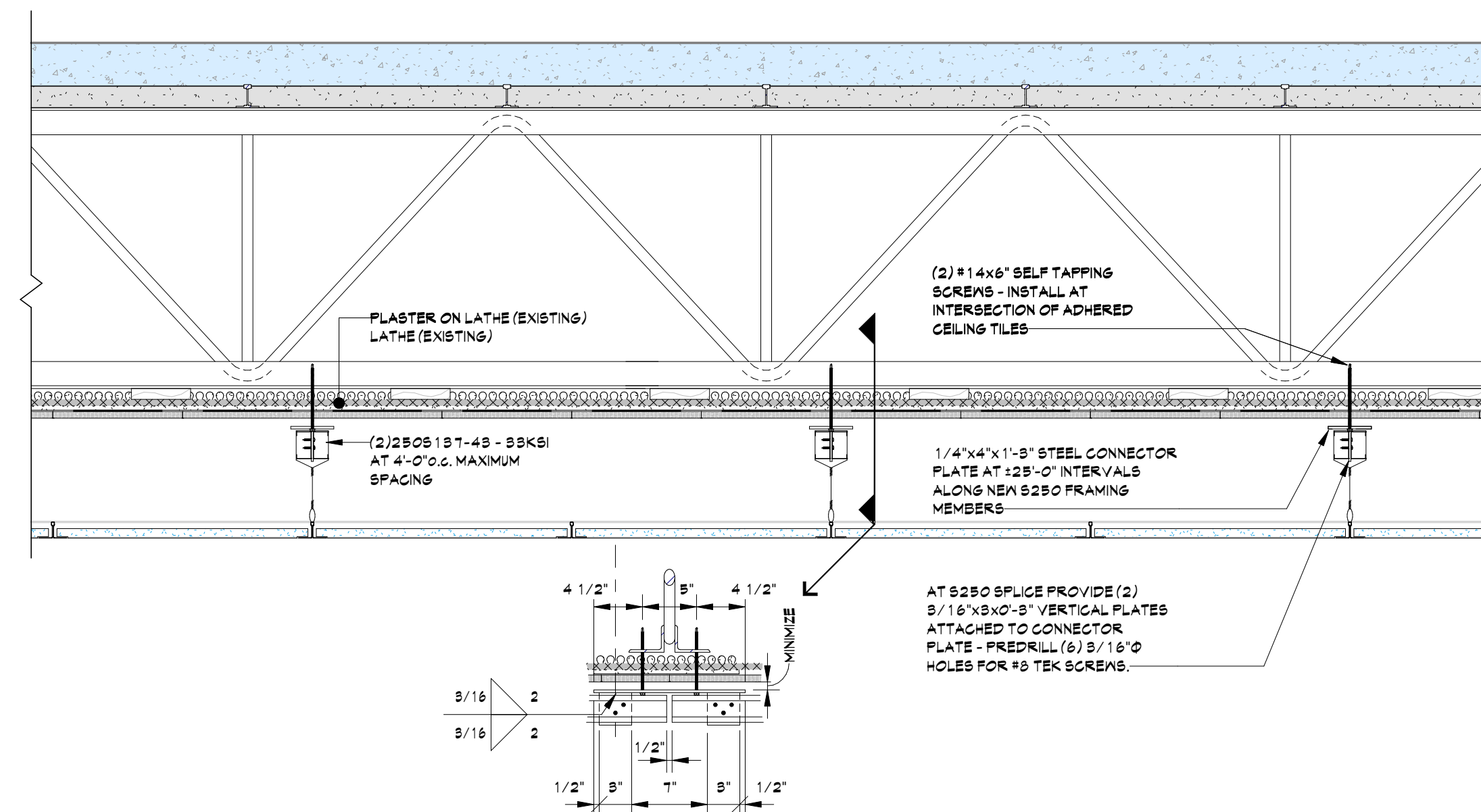
Revisions _____



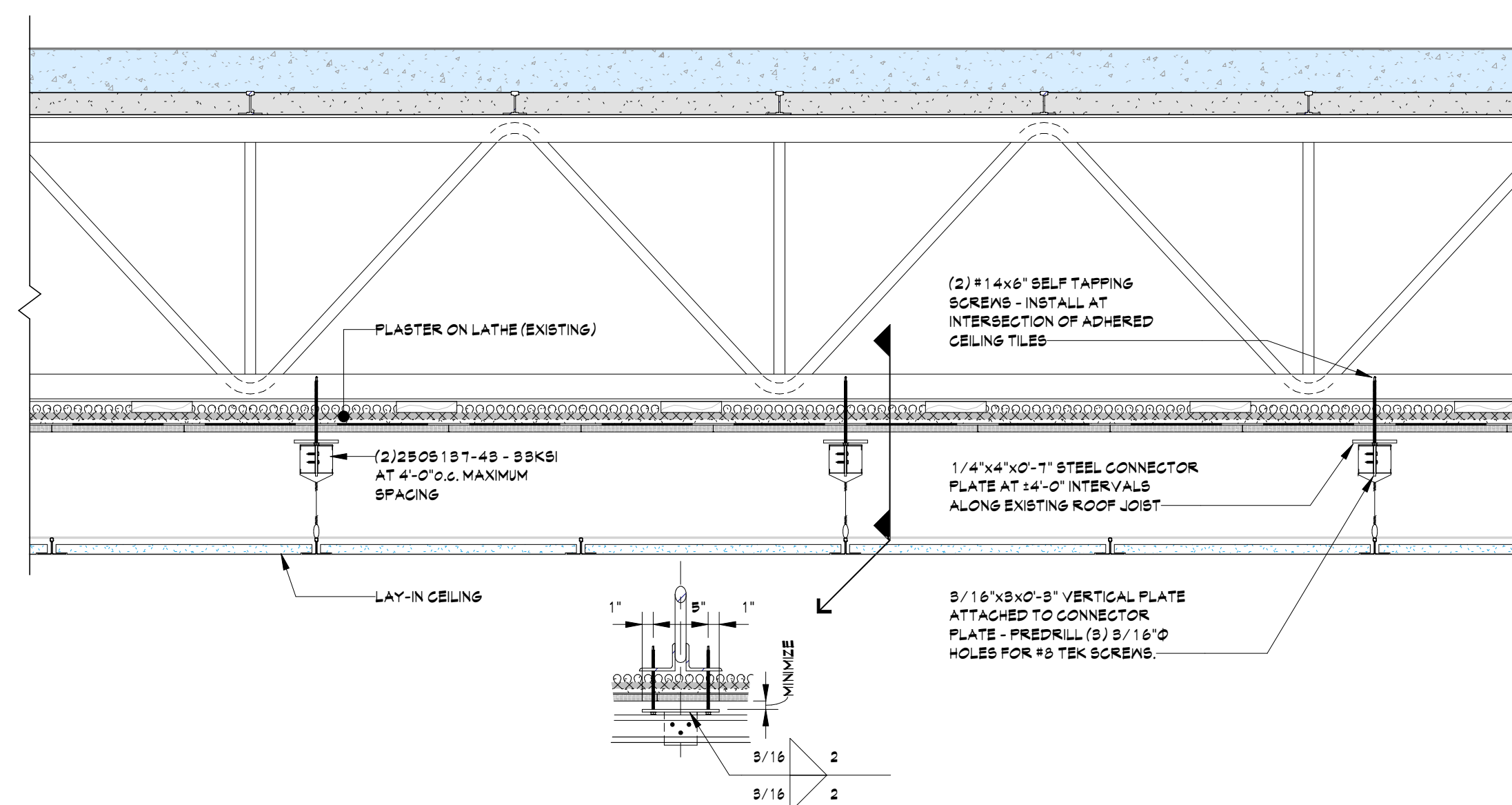
5 ADDITIONAL CEILING FRAMING AT CEILING FANS
6.0 1" = 1'-0"



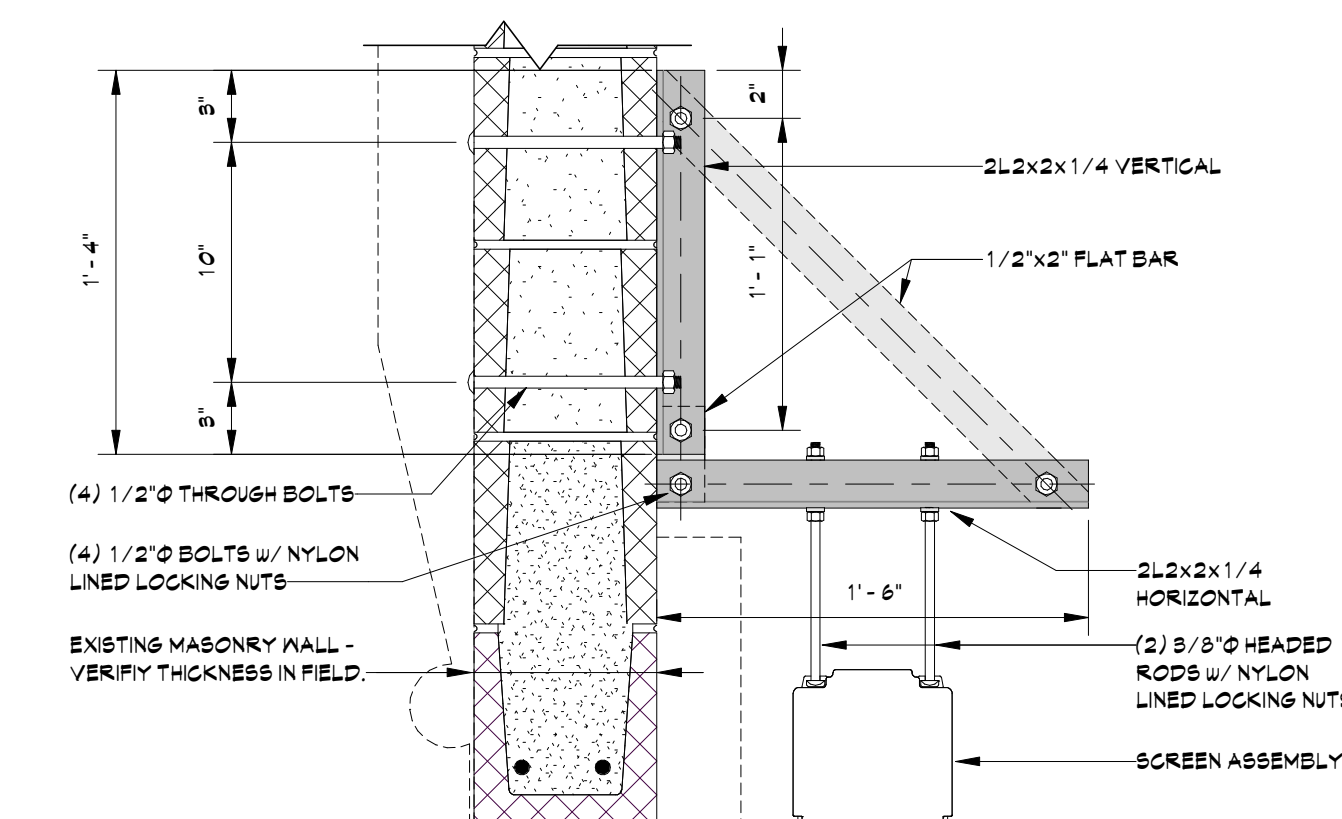
2 TYPICAL DETAIL - STEEL FRAMING - JOIST REINFORCEMENT
6.0 1" = 1'-0"



4 TYPICAL JOINT IN FRAMING MEMBER
6.0 1" = 1'-0"



3 TYPICAL GYPSUM CEILING CONNECTION
6.0 1" = 1'-0"



1 SECTION AT SCREEN ASSEMBLY
6.0 1 1/2" = 1'-0"

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Structural Details

Renovations To:

C.C. SPAULDING
ELEMENTARY SCHOOL

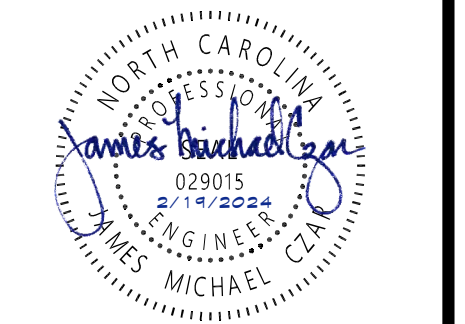
Auditorium
Renovations
CC Spaulding
Elementary
School

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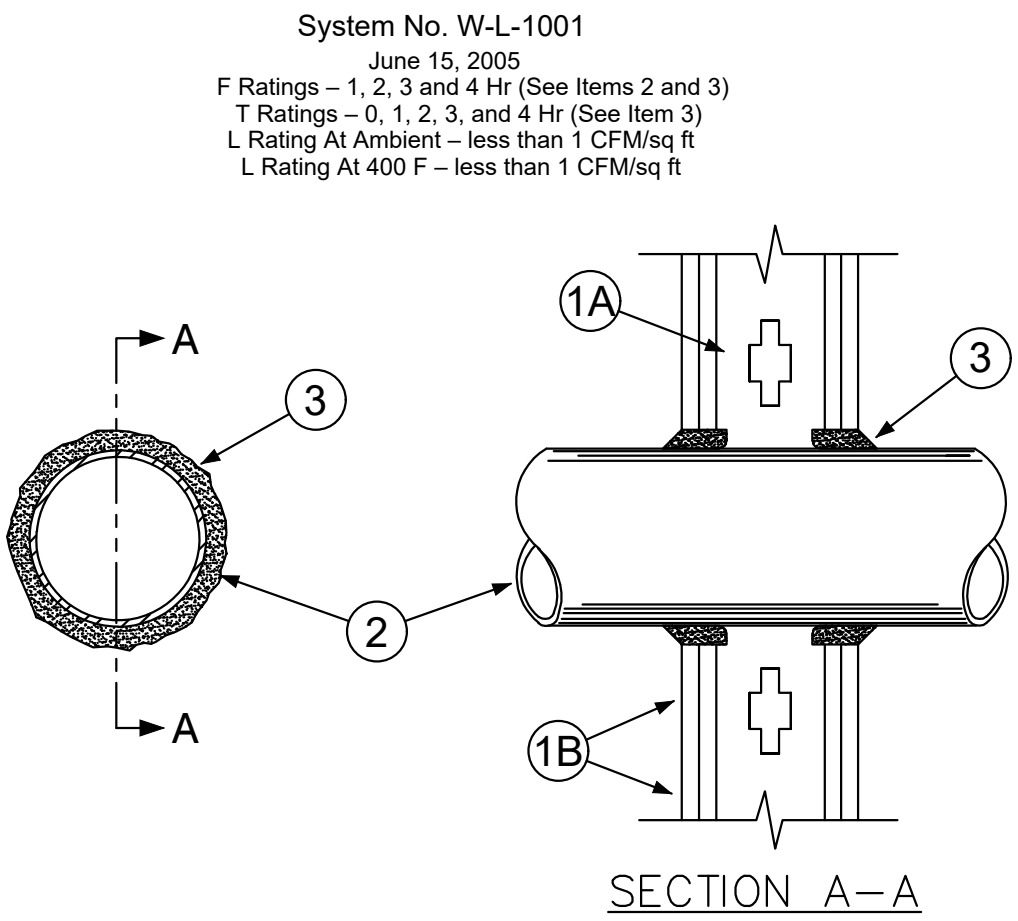
Bid Set March 7, 2024

Date: 2/19/2024

Revisions:

Sheet:

6.0



1. Wall Assembly — The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. Gypsum Board — Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. Through-Penetrant — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in (0 mm), (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe — Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe — Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. Through Penetrating Product* — Flexible Metal Piping The following types of steel flexible metal piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly. **OMEGA FLEX INC**

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly. **GASTITE, DIV OF TITFLEX**

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly. **WARD MFG L L C**

3. Fill, Void or Cavity Material* — Caulk and Sealant — Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below.

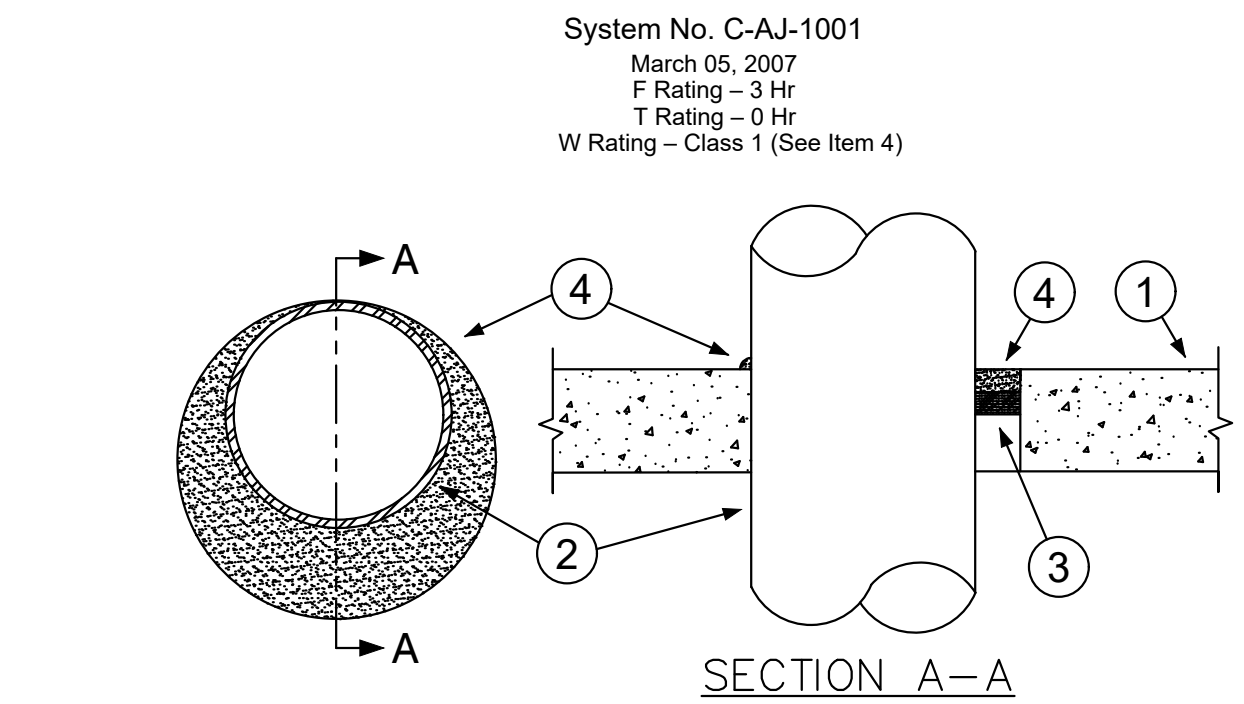
Max Pipe or Conduit Diam in (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+ 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

3M COMPANY — CP 25WB+ or FB-3000 WT.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*, Max diam of circular through opening is 32-1/2 in. (826 mm). See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

1A. Steel Sleeve — (Optional, not shown) — Nom 12 in. (305 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe sleeve cast into concrete floor or wall. Sleeve to be flush with or project max 2 in. (51 mm) from top surface of floor or from both surfaces of wall. As an alternate, nom 12 in. (305 mm) diam (or smaller) sleeve fabricated from nom 0.019 in. (0.48 mm) thick galv steel cast or grouted into floor or wall assembly flush with floor or wall surfaces.

2. Through — Penetrant — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1-3/8 in. (35 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

A1. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.

B. Conduit — Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.

C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.

3. Packing Material — Polyethylene backer rod or nom 1 in. (25 mm) thickness of tightly-packed ceramic (alumina silica) fiber blanket, mineral wool batt or glass fiber insulation material used as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of solid concrete or concrete block wall as required to accommodate the required thickness of caulk fill material (Item 4). As an alternate when max pipe size is 10 in. (254 mm) diam and when max annular space is 1 in. (25 mm), a min 1 in. (25 mm) thickness of tightly-packed ceramic fiber blanket or mineral wool batt packing material may be recessed min 1/2 in. (13 mm) from bottom surface of floor or from either side of solid concrete wall.

4. Fill, Void or Cavity Materials* — Caulk — Applied to fill the annular space to the min thickness shown in the following table:

Max Pipe Diam In.	Max Annular Space In.	Packing Mtl Type (a)	Min Caulk Thkns In.
10 (254)	1 (25)	BR, CF, GF or MW 1/2 (13) (b)	10 (254)
10 (254)	1 (25)	CF or MW 1/2 (13) (c)	30 (762)
30 (762)	2-1/2 (64)	BR, CF, GF or MW 1 (25) (b)	

(a) BR=Polyethylene backer rod.
CF=Ceramic fiber blanket.
GF=Glass fiber insulation.
MW=Mineral-wool batt.

(b) Caulk installed flush with top surface of floor or both surfaces of wall

(c) Caulk installed flush with bottom surface of floor or one surface of solid (non-concrete block) wall

3M COMPANY — Type CP 25WB+ or FB-3000 WT

(Note - W Rating applies only when FB-3000 WT is used on top surface of floor and when it laps onto concrete for sleeved opening.)

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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EXISTING PANEL UP-1																		
NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD	CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES
	1	275	AUD AISLE LITG INVERTER	3/4"	12	12	12	20	275	20					SPARE	2		
	1	3	PROJECTOR SCREEN	3/4"	12	12	12	20	240	20					SPARE	4		
	1	5	STAGE LIFT	3/4"	12	12	12	20		1120	20				399 REC	720	6	
	1	7	AV CONTROL FLOOR BOX	3/4"	12	12	12	20	1050	20					309 REC	720	8	
	1	9	AV RACK	3/4"	12	12	12	20	2000	20					INVERTER	500	10	
	11		SPARE					20		1000	20				EX FAN	1000	12	
	13		SPARE					20	500	15					EX FAN	500	14	
	15		SPARE					20	0						SPARE	16		
	17		SPARE					20		500	15				AV UNIT	500	18	
	19		SPARE					20	500	15					AV UNIT	500	20	
	21		SPARE					20		0					SPARE	22		
	23		SPARE					20		0	20				SPARE	24		
	25		SPARE					20	0		20				SPARE	26		
	27		SPARE					20	0		20				SPARE	28		
	29		SPARE					20		0	20				SPARE	30		
	31		SPARE					20	0		20				SPARE	32		
	33		SPARE					20		0	20				SPARE	34		
	35		SPARE					20		0	20				SPARE	36		
	37		PHL GP-1					100	4800		100		EX		PHL UP-2	4800	38	
	39				EX			100	4800		3P					4800	40	
	41							-		0	-						42	

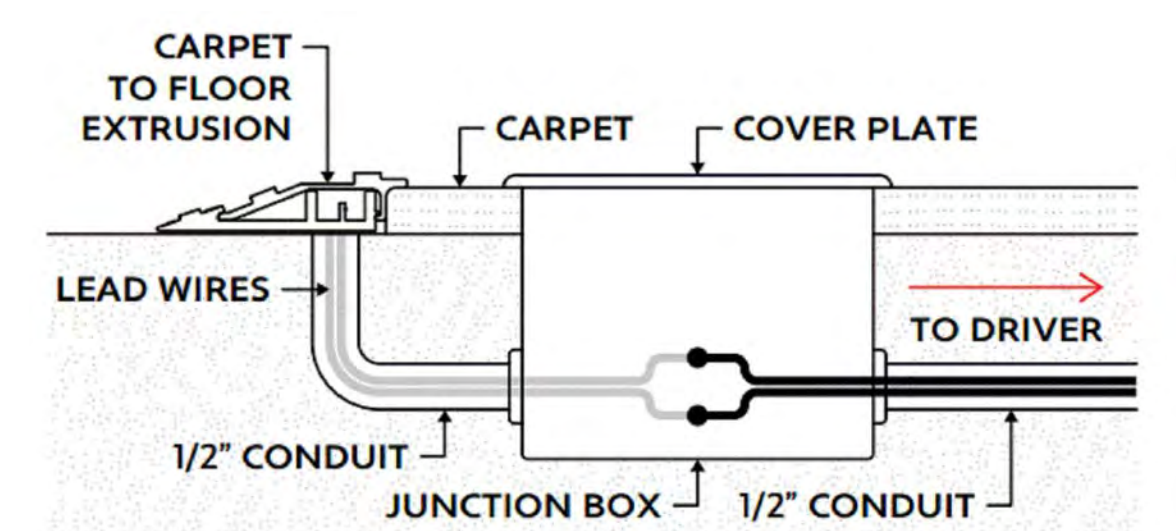
208Y / 120 VOLTS 3 PHASE
250 BUS AMPS X MLO
200 FEEDER AMPS
MCB AMPS N/A MCB

4 WIRE X GROUND BAR SE RATED
FLUSH MOUNT NEMA 1 10K AC MINIMUM

NOTES	AMPS	PHASE TOTALS	KVA
1	59.63	PHASE A:	7.16
2	58.67	PHASE B:	7.04
3	62.67	PHASE C:	7.52
4	60.32	TOTAL CONNECTED	21.72
5	46.56	TOTAL DEMAND *	16.78

ELECTRICAL SPECIFICATIONS

- GENERAL:
 - PROVIDE ALL WORK, EQUIPMENT, SERVICES, LABOR, AND MATERIALS FOR THE CONSTRUCTION OF NEW ELECTRICAL SYSTEMS AS DESCRIBED OR IMPLIED BY THE CONTRACT DOCUMENTS.
 - THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO INCLUDE EVERY DETAIL OF CONSTRUCTION, MATERIALS, AND EQUIPMENT. TAKE ACTUAL FIELD MEASUREMENTS AT THE JOB SITE IN LIEU OF SCALING THE DRAWINGS.
 - REVIEW THE CONTRACT DOCUMENTS OF ALL TRADES AND COORDINATE ALL WORK WITH THE OTHER TRADES AS NECESSARY TO AVOID CONFLICTS AND INTERFERENCES.
 - ALL WORK AND MATERIALS SHALL COMPLY WITH APPLICABLE STATE, LOCAL, AND NATIONAL CODES (INCLUDING OSHA). COMPLIANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND THESE SPECIFICATIONS SHALL BE THE MINIMUM STANDARD OF ACCEPTANCE.
 - OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS.
 - LOCATIONS INDICATED FOR OUTLETS, EQUIPMENT, ETC., ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR.
 - PROVIDE ONLY NEW MATERIALS AND EQUIPMENT LISTED AND LABELED (FOR THE USE INTENDED) BY AN APPROVED THIRD PARTY LABORATORY SERVICE SUCH AS UNDERWRITER'S LABORATORIES, INC.
 - SUBMIT IN ELECTRONIC FORMAT (PDF) SHOP DRAWINGS AND CATALOG DATA FOR ALL ELECTRICAL MATERIALS.
 - FIRE-STOPPING SEALANT SHALL BE USED TO SEAL ALL RATED FLOOR AND WALL PENETRATIONS.
- CONDUITS:
 - ALL CONDUIT INSTALLED ABOVE GROUND SHALL BE ZINC-COATED EMT WITH COMPRESSION CONNECTORS OR GALVANIZED RIGID STEEL (GRS). CONDUIT ENCASED IN CONCRETE SHALL BE GALVANIZED RIGID STEEL.
 - SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS OR FLOORS WITH UL LABELED, FIRE SEAL.
 - ALL CONDUIT SHALL BE CONCEALED EXCEPT FOR NEW CONDUIT INSTALLED ON EXISTING MASONRY WALLS WHERE IT IS NOT POSSIBLE TO CONCEAL. IN THIS CASE THE CONDUIT SHALL BE ROUTED PARALLEL, PERPENDICULAR AND TIGHT TO STRUCTURE AS INCONSPICUOUSLY AS POSSIBLE. ALL SURFACE MOUNTED BOXES AND CONDUIT TO BE PAINTED TO MATCH ADJACENT SURFACE. FIELD BEND AS REQUIRE FOR SURFACE MOUNTING ON EXISTING CURVED SURFACES.
- WRING:
 - CONDUCTORS SHALL BE COPPER, THHN/THWN, 12AWG MINIMUM, SOLID FOR #10 AWG OR #12 AWG, AND STRANDED FOR ALL LARGER SIZES. ALL CONDUCTORS SHALL BE COLOR-CODED.
 - LOW VOLTAGE WRING TO AISLE LIGHTS MAY BE #14AWG FOR DESIGN BASIS FIXTURE SPECIFIED. ALTERNATE PRODUCTS WILL NEED TO BE EVALUATED FOR VOLTAGE DROP BASED ON LOAD. LOW VOLTAGE WRING MAY BE STRANDED IF REQUIRED / RECOMMENDED IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - ALL CONDUCTORS AND CABLES SHALL BE INSTALLED IN CONDUITS AND TESTED FOR CONTINUITY AND GROUND BEFORE BEING ENERGIZED.
 - THE CONDUIT AND ALL ELECTRICAL EQUIPMENT AND DEVICES SHALL BE GROUNDED. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR WITH EVERY CIRCUIT. NO CONDUIT SHALL CONTAIN MORE THAN THREE PHASE CONDUCTORS.
 - EXTENSION / REWORK OF EXISTING 120V OR 277V, 20A CIRCUITS SHALL UTILIZE 3-#12 AWG CONDUCTORS PER CIRCUIT IN 3/4" CONDUIT. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR WITH EACH CIRCUIT.
- DEVICES:
 - ALL WRING DEVICES SHALL BE HEAVY DUTY SPECIFICATION GRADE, HUBBELL, ARROW HART, OR APPROVED EQUAL.
 - RECEPTACLES SHALL BE HEAVY DUTY SPECIFICATION GRADE, GROUNDING TYPE ARRANGED FOR SIDE AND BACK WRING WITH SEPARATE SINGLE OR DOUBLE GROUNDING TERMINALS. RECEPTACLES SHALL BE STRAIGHT BLADE RATED 20 AMPERES, 125 VOLT.
 - DEVICES SHALL BE GRAY WITH STAINLESS STEEL COVER PLATS. COLOR SELECTION TO BE CONFIRMED WITH OWNER DURING SUBMITTAL PHASE.
- ELECTRICAL IDENTIFICATION:
 - CIRCUIT IDENTIFICATION LABELS SHALL BE INSTALLED ON ALL NEW AND MODIFIED DEVICE COVER PLATES. INSTALL LABELS EXTERNALLY USING PRESSURE-SENSITIVE, SELF-ADHESIVE LABELS. LABEL SHALL LIST PANEL AND CIRCUIT NUMBER OR EQUIVALENT.



1 Aisle Lighting Detail 1
E1.0 SCALE: NONE

EXISTING PANEL STAGE'																		
NOTES	CKT	LOAD	DESCRIPTION	COND	EGC	N	W	CB	LOAD	CB	W	N	EGC	COND	DESCRIPTION	LOAD	CKT	NOTES
	1	1200	AUDITORIUM LIGHTS	EX	EX	EX	EX	EX	2400						AUDITORIUM CLG LTS	1200	2	1
	3	1200	AUDITORIUM LIGHTS	EX	EX	EX	EX	EX	2400						AUDITORIUM CLG LTS	1200	4	1
	5	1200	AUDITORIUM LIGHTS	EX	EX	EX	EX	EX		2400					AUDITORIUM SPOT LTS	1200	6	
	7	1200	AUDITORIUM WALL LITS	EX	EX	EX	EX	EX	2400						AUDITORIUM SPOT LTS	1200	8	
	9	1200	STAGE CLG LITS	EX	EX	EX	EX	EX	2400						STAGE CLG DRP LITS	1200	10	
	11	1200	STAGE CLG LITS	EX	EX	EX	EX	EX		1380					REAR STAGE REC	180	12	
	13	1200	STAGE PORTABLE LITS	EX	EX	EX	EX	EX	1380						STAGE DUPLEX	180	14	
	15	1200	STAGE PORTABLE LITS	EX	EX	EX	EX	EX		1200					SPACE		16	
	17	1200	STAGE PORTABLE LITS	EX	EX	EX	EX	EX		1380					AUDITORIUM REC	180	18	
	19	1200	FAN COOL UNITS	EX	EX	EX	EX	EX	2400						CEILING FAN	1200	20	1
	21	1200	FAN COOL UNITS	EX	EX	EX	EX	EX		2400					CEILING FAN	1200	22	1
	23	1200	AC UNIT CONTROL	EX	EX	EX	EX	EX		1200					SPACE		24	
	25	1200	FAN COOL UNITS	EX	EX	EX	EX	EX	2400						FAN COOL UNITS 3P & 38	1200	26	
	27	1200	FAN COOL UNITS	EX	EX	EX	EX	EX	2400						FAN COOL 39 & 40	1200	28	
	29	1200	FAN COOL UNITS	EX	EX	EX	EX	EX		2400					FAN COOL 35 & 36	1200	30	

208Y / 120 VOLTS 3 PHASE
100 BUS AMPS N/A MLO
100 FEEDER AMPS
100 MCB AMPS X MCB

4 WIRE X GROUND BAR SE RATED
FLUSH MOUNT NEMA 1 10K AC MINIMUM

NOTES	AMPS	PHASE TOTALS	KVA
1	91.00	PHASE A:	10.98
2	90.50	PHASE B:	10.80
3	73.00	PHASE C:	8.76
4	84.83	TOTAL CONNECTED	30.54
5	81.83	TOTAL DEMAND *	29.46

ELECTRICAL SYMBOLS	
\$	LIGHT SWITCH (3-WAY - 4-WAY) AS INDICATED
A-15	NEW HOMERUN TO PANEL 'A', CIRCUIT 15
(Symbol)	NEW UNSWITCHED LIGHTING CIRCUITRY
(Symbol)	NEW POWER OR LIGHTING CIRCUITRY
(Symbol)	DUPLEX RECEPTACLE
(Symbol)	FLOOR BOX
(Symbol)	JUNCTION BOX
(Symbol)	BACK BOX WITH BLANK COVER PLATE
(Symbol)	DISCONNECT SWITCH
(Symbol)	HATCHING INDICATES DEVICE TO BE DEMOLISHED (TYP.)
ER	RELOCATE EXISTING DEVICE

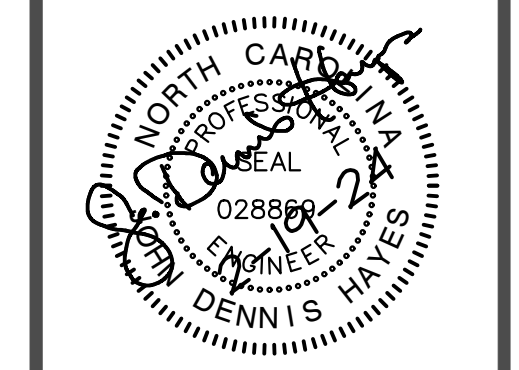
NOTE:

- ITEMS IN BOLD INDICATE NEW WORK. THIN LINE WEIGHT ITEMS INDICATE EXISTING CONDITIONS.
- NOT ALL DEVICES ARE IDENTIFIED IN THE LIST ABOVE. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

GENERAL ELECTRICAL NOTES:

- THE CONTRACTOR SHALL VERIFY EQUIPMENT NAMEPLATE INFORMATION BEFORE INSTALLING CONDUIT, WRING, CIRCUIT BREAKERS, DISCONNECT SWITCHES OR FUSES.
- IN THE EVENT THE CONTRACTOR CHOOSES TO USE PRODUCTS OTHER THAN THE BASIS OF DESIGN, HE ASSUMES FULL RESPONSIBILITY FOR COORDINATION AND INTEGRATION OF SUCH ITEMS.
- ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE ELECTRICAL DRAWINGS REGARDING BUILDING CONSTRUCTION, DIMENSION AND ARRANGEMENT. CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL TRADES TO AVOID CONFLICTS AND SHALL PROVIDE ALL OFFSETS AND EQUIPMENT AS REQUIRED TO FIT THE ELECTRICAL WORK INTO THE AVAILABLE SPACE.
- COORDINATE ANY AND ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION SO AS TO AVOID CONFLICT DURING CONSTRUCTION.
- THE CONTRACTOR SHOULD READ AND UNDERSTAND THE ENTIRE SET OF CONSTRUCTION DOCUMENTS WHICH INCLUDES BUT IS NOT LIMITED TO THE SPECIFICATIONS, ARCHITECTURAL, CIVIL, STRUCTURAL AND ALL ENGINEERING DRAWINGS, SO THAT HE MAY UNDERSTAND THE FULL SCOPE OF WORK AND CONVEY THE PROPER REQUIRED MATERIALS AND METHODS OF INSTALLATION TO THE ESTIMATORS, SUPPLIERS AND INSTALLERS.
- CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS IN ORDER TO OBTAIN A FULL UNDERSTANDING OF WORK TO BE DONE.
- NO EXISTING POWER (CIRCUIT BREAKER, DISCONNECT SWITCHES, ETC.) IS TO BE TURNED OFF UNTIL VERIFIED THAT IT IS NOT IN CURRENT USE AND UNTIL APPROVED BY THE OWNER.
- ALL ELECTRICAL EQUIPMENT AND WRING SHALL BE 75 DEG. RATED.
- IN FINISHED SPACES, ALL CONDUIT SHALL BE CONCEALED AND ALL OUTLET BOXES SHALL BE FLUSH MOUNTED - UNLESS OTHERWISE NOTED ON PLANS. CUT AS REQUIRED AND PATCH TO MATCH EXISTING FINISH.
- THE ELECTRICAL CONTRACTOR SHALL REMOVE ONLY THOSE EXISTING LIGHT FIXTURES, SWITCHES, RECEPTACLES, POWER JUNCTION AND OUTLET BOXES AS INDICATED ON DEMOLITION DRAWINGS.
- REMOVE POWER AND SIGNALING SYSTEMS WRING

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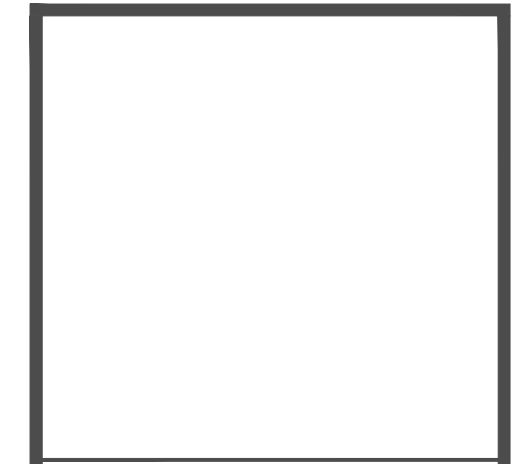
Electrical Demolition Plan

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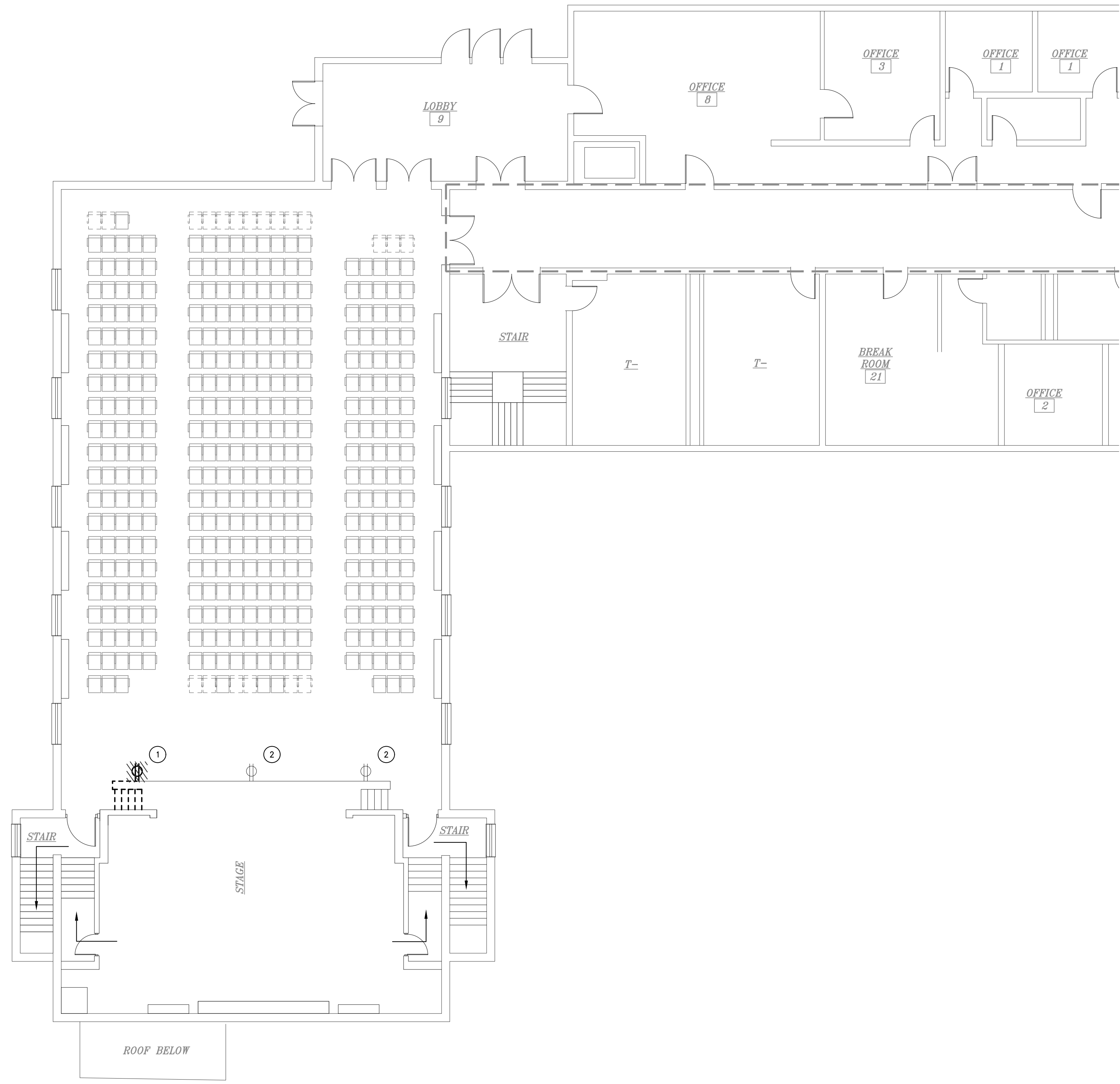
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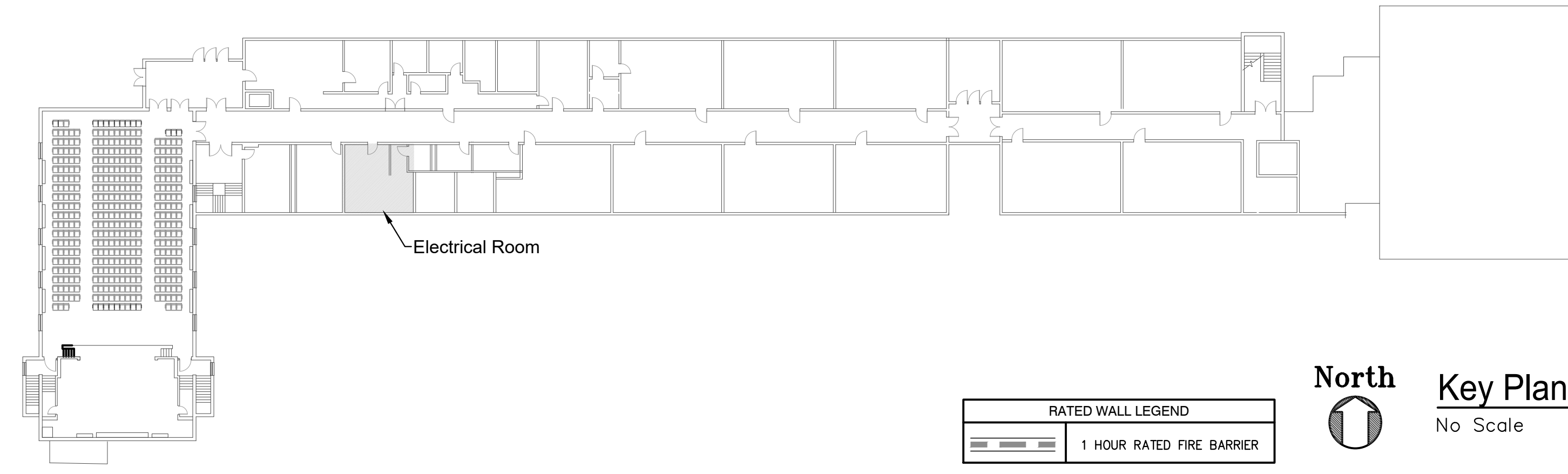
Bid Set March 7, 2024
Date: 02/19/24
Revisions:
Sheet: **E2.0**

ELECTRICAL DEMOLITION NOTES:

- ① REMOVE RECEPTACLE AND REWORK AND EXTEND CIRCUIT AS REQUIRED TO FEED NEW RECEPTACLE IN NEW STAGE EXTENSION. MAINTAIN POWER TO ALL DOWNSTREAM RECEPTACLES ON SAME CIRCUIT. SEE RENOVATION PLAN FOR EXACT LOCATION OF NEW RECEPTACLE.
- ② EXISTING RECEPTACLE TO REMAIN AND TO BE REFEED. CIRCUIT ROUTING TO BE CONFIRMED BY ELECTRICAL CONTRACTOR.



1
E2.0 Electrical Demolition Plan
SCALE: 1/8" = 1'-0"



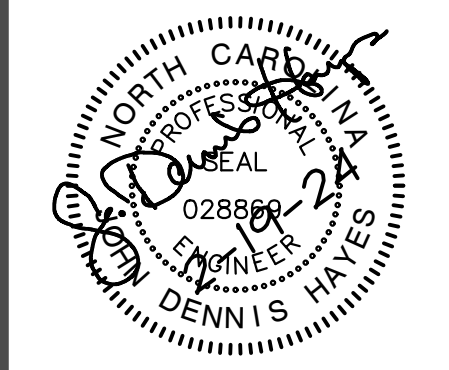
RATED WALL LEGEND	
	1 HOUR RATED FIRE BARRIER

North

Key Plan
No Scale

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Revisions:

Sheet: **E3.0**

ELECTRICAL RENOVATION NOTES: (E)

- INSTALL NEW RECEPTACLE FLUSH MOUNTED IN SIDE WALL OF NEW STAGE EXTENSION. EXTEND AND REWORK EXISTING CIRCUIT AS REQUIRED.
- 1-1/4" CONDUIT FOR NEW A/V EQUIPMENT ROUTED AS CONCEALED AS POSSIBLE THROUGH STAGE CEILING TO A/V RACK. FIELD COORDINATE EXACT ROUTING WITH EXISTING CONDITIONS INCLUDING STRUCTURE AND OTHER EXISTING BUILDING SYSTEMS.
- ROUTE 2" CONDUIT DOWN TO CAFETERIA CEILING BELOW. ROUTE THROUGH CEILING AND UP TO NEW FLOOR BOX IN AV CONTROL AREA. FIELD COORDINATE EXACT ROUTE.
- INSTALL NEW FIRE RATED POKE THROUGH TYPE FLOOR BOX IN AV CONTROL AREA FOR POWER, DATA AND AV. FIELD COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS AND CASEWORK. SEE DETAIL THIS SHEET FOR MORE INFORMATION.
- INSTALL NEW AISLE LIGHTS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS INCLUDING ADHESIVE AND ANCHORS / SCREWS TO SECURE EXTRUSION TO FLOOR. PROVIDE COMPLETE SHOP DRAWINGS WITH LENGTHS AND ALL FITTINGS AS REQUIRED FOR A TURN-KEY INSTALLATION. REFER TO DETAIL 1/E1.0.
- PROVIDE UNISTRUT AS REQUIRED TO MOUNT LIGHTING INVERTER IN BREAK ROOM HIGH ON WALL. SEE LIGHTING FIXTURE SCHEDULE BELOW FOR INVERTER DESIGN BASIS. CIRCUIT TO UP1-1 USING EXISTING BREAKER. ROUTE DOWN TO LOWER LEVEL AND THEN OVER TO REMOTE DRIVERS TO FEED NEW AISLE LIGHTING.
- MOUNT REMOTE DRIVERS FOR AISLE LIGHTING ABOVE CAFETERIA CEILING BELOW. FIELD COORDINATE EXACT LOCATION SO THAT DRIVERS ARE EASILY ACCESSIBLE. DRIVERS ARE FED FROM LOAD SIDE OF INVERTER.
- ROUTE CONDUIT BELOW FROM DRIVERS TO EACH RUN OF AISLE LIGHTING AND STUB UP AT LINE FEEDS AS SHOWN. FIELD COORDINATE WITH EXISTING CONDITIONS.
- PROVIDE POWER TO NEW MOTORIZED PROJECTOR SCREEN. COORDINATE EXACT LOCATION WITH EQUIPMENT AND EQUIPMENT INSTALLER.
- 1-GANG OUTLET BOX FOR NEW SPEAKER AT 15"-8" AFF. FIELD COORDINATE EXACT LOCATION WITH A/V DRAWINGS.
- 1-GANG OUTLET BOX FOR NEW SUB-WOOFER AT 19"-2" AFF. FIELD COORDINATE EXACT LOCATION WITH A/V DRAWINGS.
- 2-GANG, 2-1/2" DEEP BOX AT 18" AFF. FIELD COORDINATE EXACT LOCATION.
- 2-GANG, 2-1/2" DEEP BOX FOR ANTENNA AT 10" AFF ABOVE A/V RACK

LIGHTING FIXTURE SCHEDULE:

A(XX) - LED AISLE LIGHT WHERE (XX) = THE LENGTH OF EACH RUN. PROVIDE CARPET TO FLOOR, MATTE BLACK, PVC EXTRUSIONS AS REQUIRED. PROVIDE WARM WHITE (3000K) LED LAMPS ON 4" CENTERS FOR ENTIRE LENGTH. LAMPS TO BE 0.25 WATTS EACH WITH 50,000 HRS MINIMUM LIFE. PROVIDE 96W 0-10V DRIVER, WITH UNIVERSAL VOLTAGE INPUT AND 24V OUTPUT. PROVIDE COMPATIBLE 0-10V DIMMER AND 0-10V CONTROL WIRING TO DRIVER. ALL COMPONENTS SHALL BE APPROVED FOR FIELD CUTS AND MITER CUTS AS REQUIRED FOR RADIUS BENDS. PROVIDE END FEEDS, END CAPS, LENS, ALL ANCILLARY PARTS, ETC., AS WELL AS ALL ADHESIVES, ANCHORS AND SCREWS AS REQUIRED FOR A COMPLETE TURN-KEY INSTALLATION.

PROVIDE THE FOLLOWING PRODUCTS BY ALUZ OR APPROVED EQUALS.

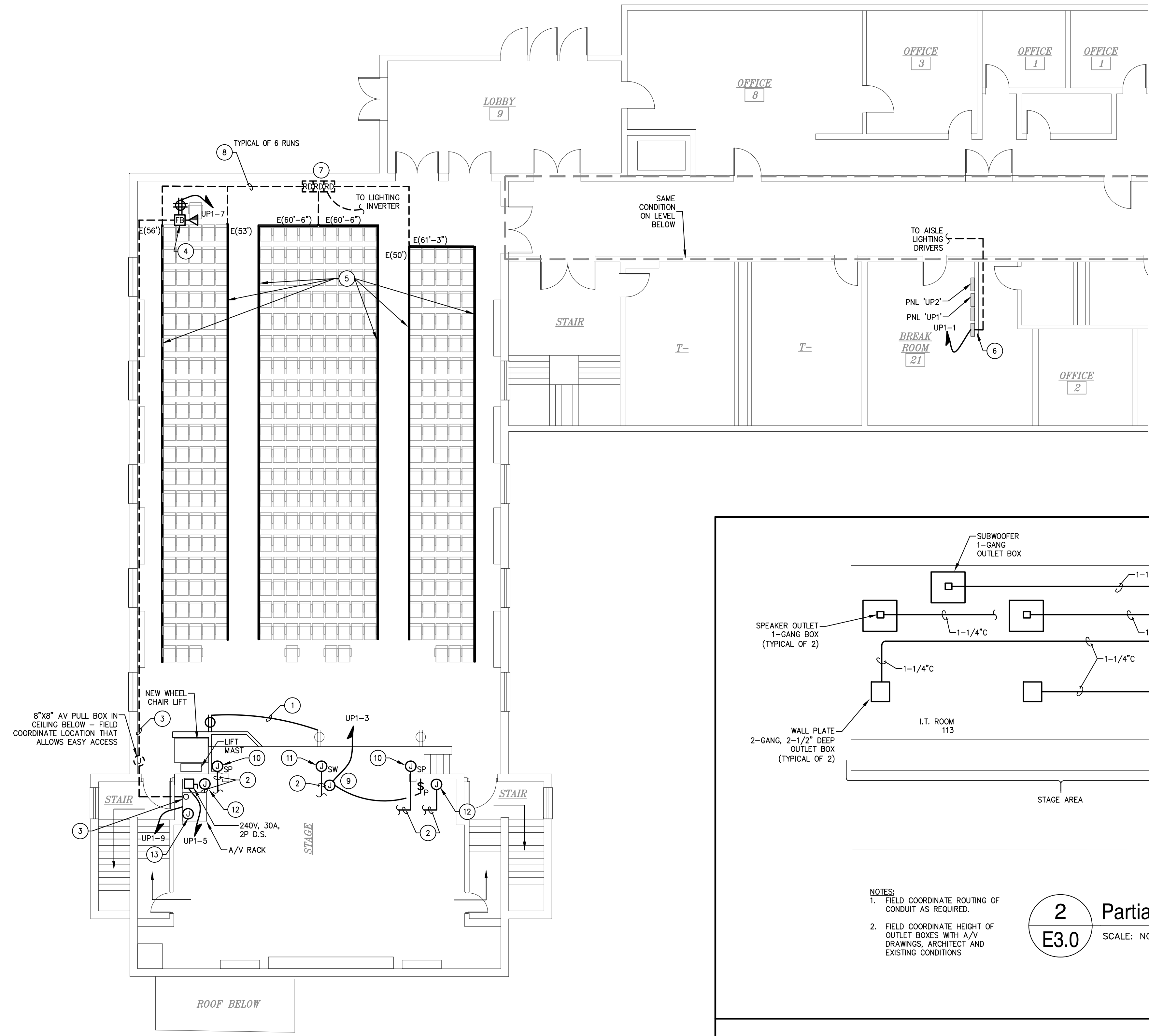
aisle LIGHT: ALUZ A7-2YKU-CRF-4"-10V-30K-CL-XX" (SEE PLANS FOR LENGTHS). FIELD MEASURE AND COORDINATE EXACT LENGTHS WITH ACTUAL FEED POINTS.

0-10V DRIVER: ALUZ DRV150-E-UNV-24VDC-10V-DRY.

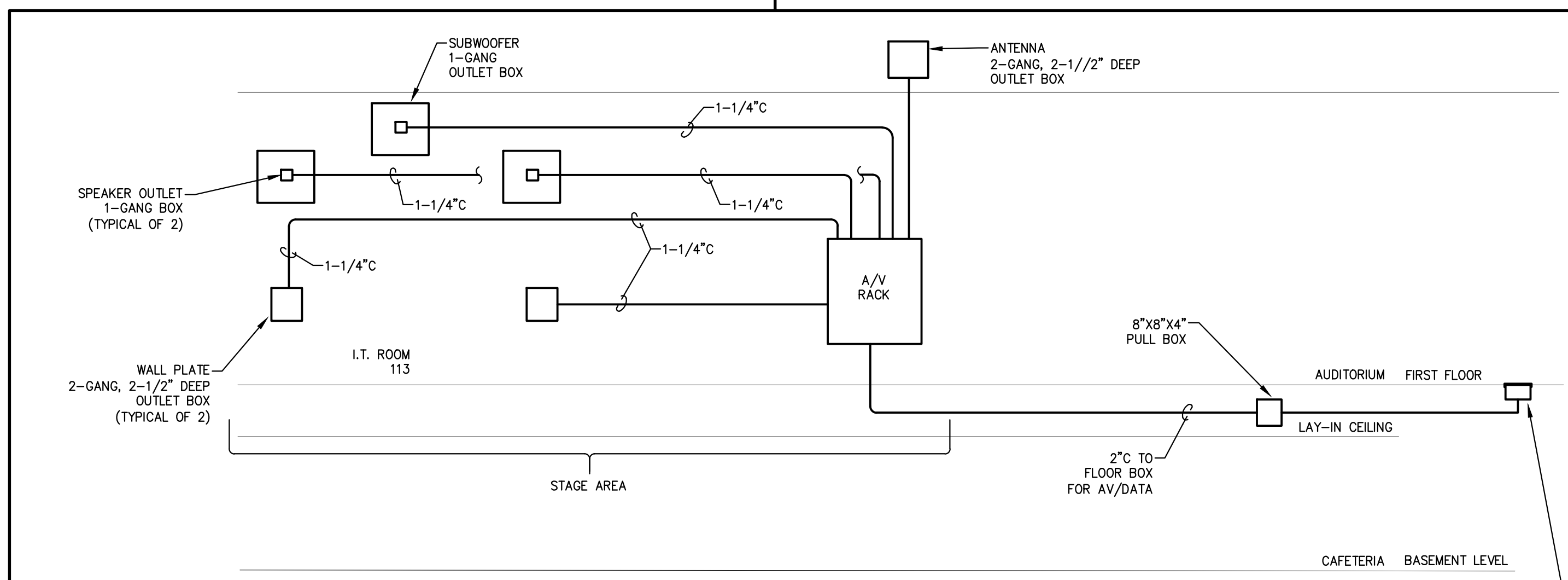
ALTERNATE FIXTURES BY CALI AND PRIMUS ALSO ACCEPTABLE.

PROVIDE 375W SURFACE MOUNTED LIGHTING INVERTER WITH UNIVERSAL INPUT / OUTPUT (120/120V OR 277/277V). PROVIDE 90 MINUTES OF BATTERY BACK-UP IN THE EVENT OF A NORMAL POWER FAILURE. INVERTER SHALL HAVE LOW VOLTAGE BATTERY DISCONNECT, BROWNOUT, OVERLOAD AND SHORT CIRCUIT PROTECTION. PROVIDE 10 YEAR RATED MAINTENANCE FREE BATTERY. DUAL-LITE, MODEL L6375S OR APPROVED EQUAL. INSTALL AHEAD OF DRIVER.

ALTERNATE INVERTERS BY LIGHTGUARD AND IOTA ALSO ACCEPTABLE.



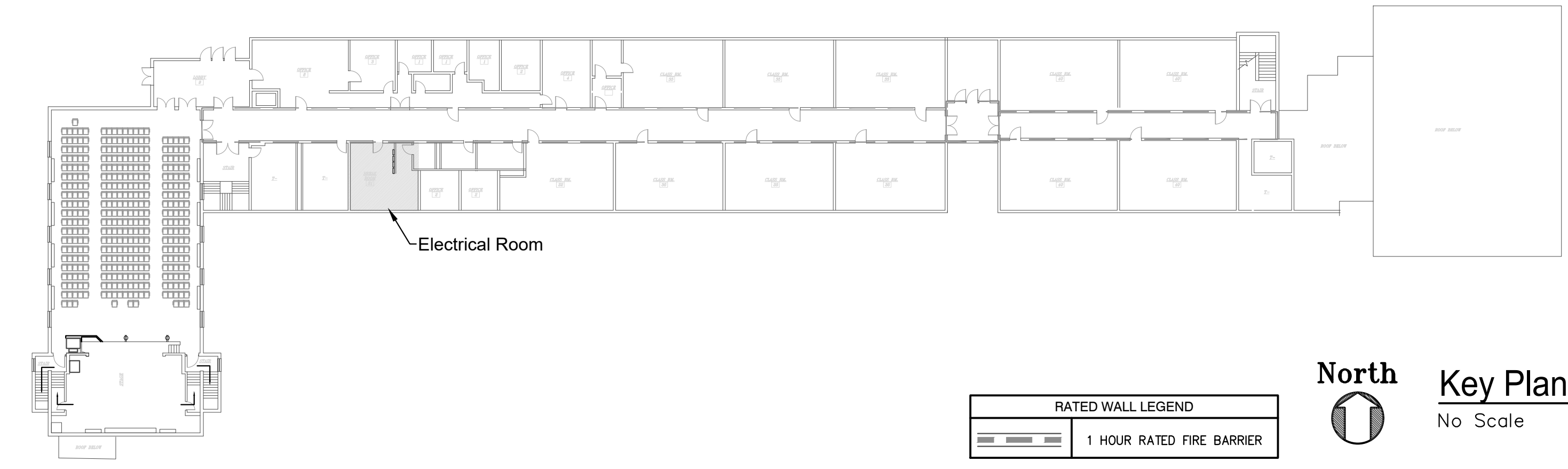
1 Electrical Renovation Plan
SCALE: 1/8" = 1'-0"



2 Partial AV Raceway Riser
SCALE: NONE

- NOTES:**
- FIELD COORDINATE ROUTING OF CONDUIT AS REQUIRED.
 - FIELD COORDINATE HEIGHT OF OUTLET BOXES WITH A/V DRAWINGS, ARCHITECT AND EXISTING CONDITIONS

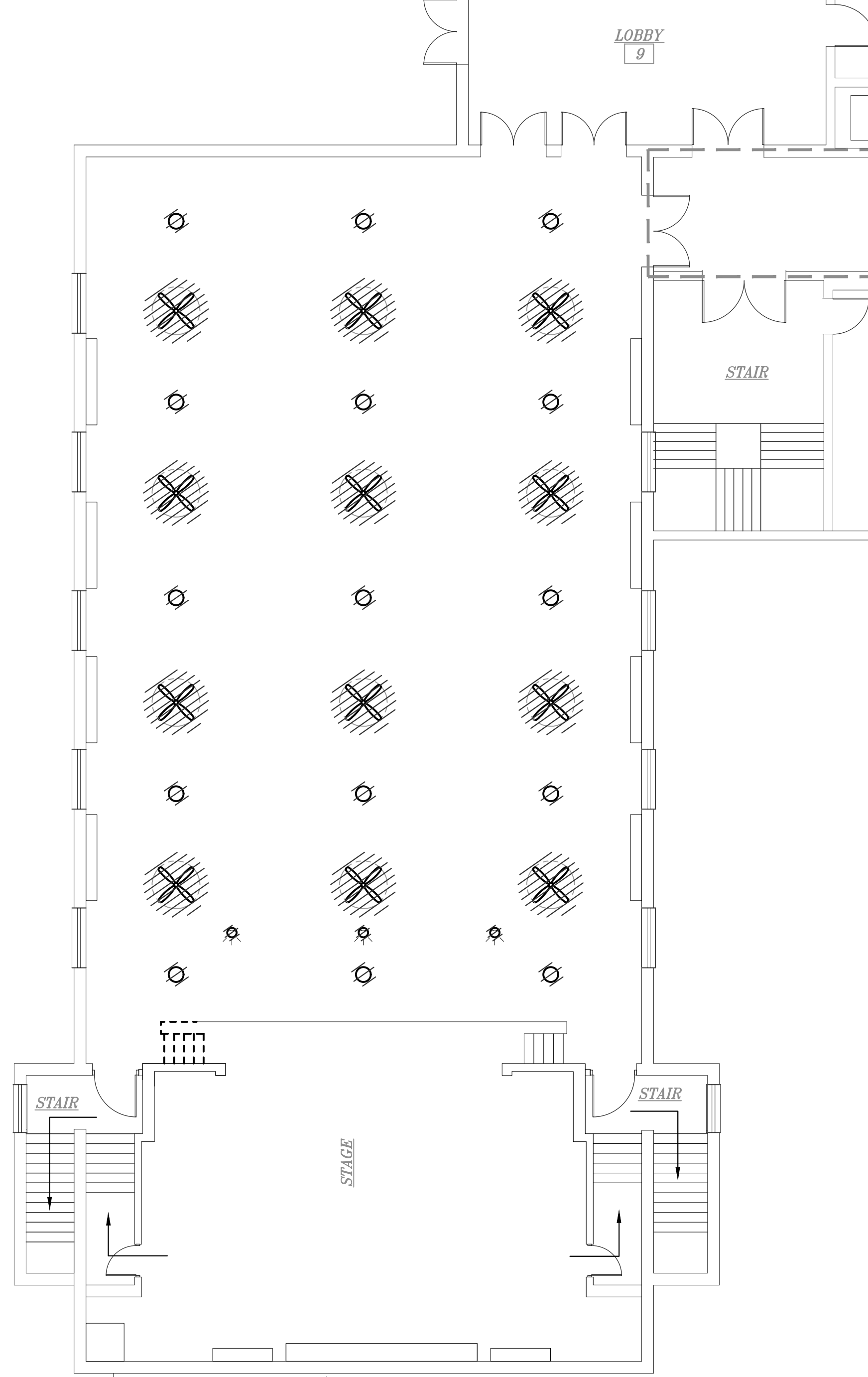
- 8" FIRE RATED POKE THROUGH FLOOR BOX (TYPICAL OF 8)
 - FOR HIGH CAPACITY MULTIMEDIA APPLICATION.
 - ADA COMPLIANT, RECESSED CAST ALUMINUM COVER WITH LOW PROFILE FLANGE (BLACK POWDER COAT)
 - RECEPTACLES / PLUGS AND JACKS COMPLETE RECESSED WHEN COVER IS CLOSED
 - COVER OPENS 180° FOR ACCESS AND HAS FOLD UNDER CABLE PASS THROUGH PANELS.
 - CENTER SUB-PLATE LAYOUT TO HAVE THREE GANGS - EACH READY FOR SIX THIRD PARTY DATA JACKS.
 - PERIMETER SUB-PLATE LAYOUT TO HAVE PRE-WIRED DUPLEX RECEPTACLE ON EACH SIDE.
 - PROVIDE 3/4" POWER CONDUIT CONNECTION
 - PROVIDE 2" LOW VOLTAGE CONDUIT CONNECTION
- HUBBELL SIR8PT SERIES OR EQUAL BY LEGRAND OR FSR.



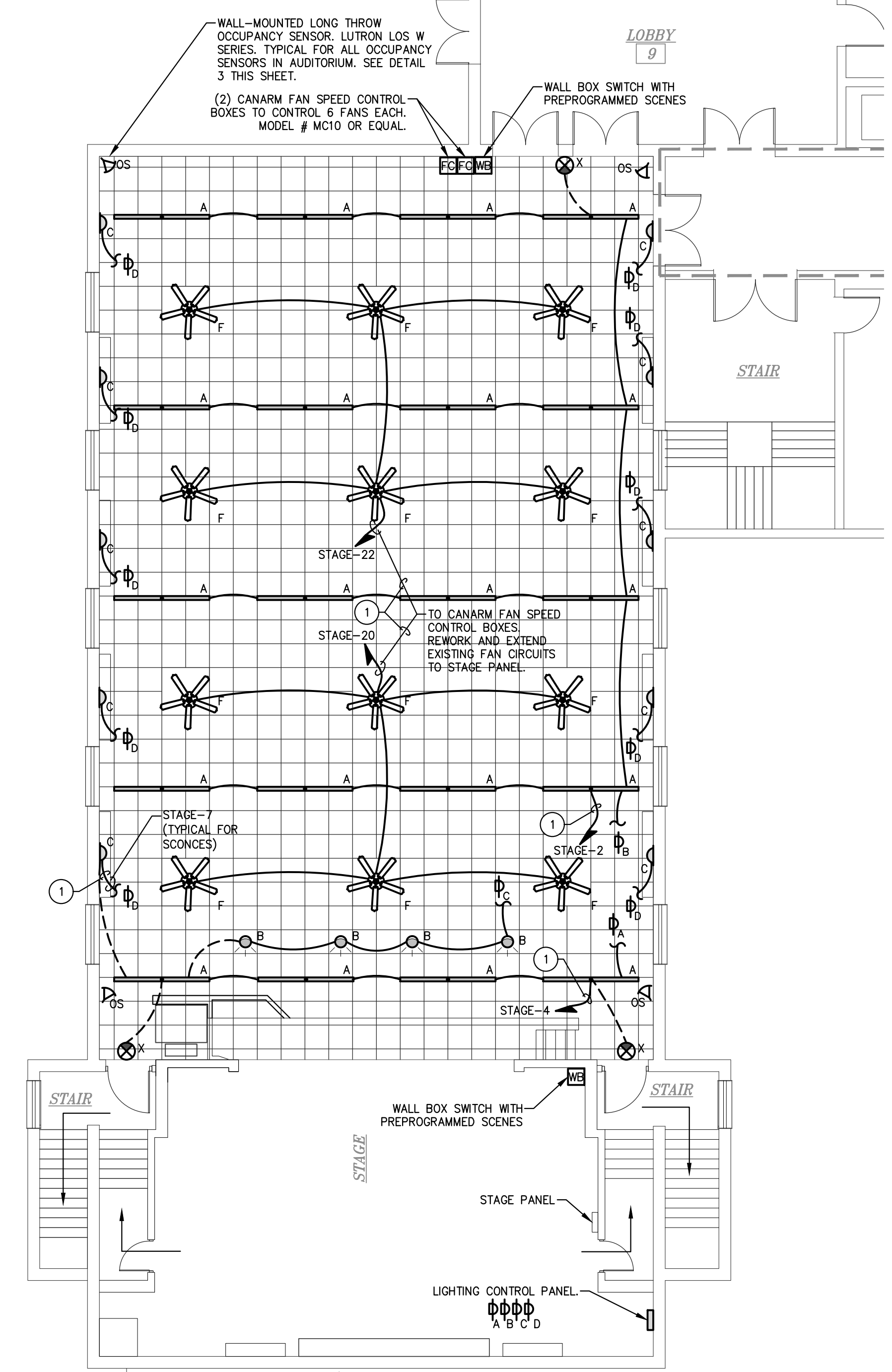
RATED WALL LEGEND	
[Symbol]	1 HOUR RATED FIRE BARRIER

North
Key Plan
No Scale

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1 Lighting Demolition Plan
E3.1 SCALE: 1/8" = 1'-0"



2 Lighting Renovation Plan
E3.1 SCALE: 1/8" = 1'-0"

LIGHT FIXTURE SCHEDULE							
TYPE	PRODUCT IMAGE	MANUFACTURER	MODEL NUMBER	LAMPING	VOLTAGE	VA	FIXTURE DESCRIPTION
A		CURRENT INTER-LUX DELVRO METALUMEN	4L-1G-D-8'-08-50F-CI-40K-D125-D01-1G-UNV	LED, 4000K 1250 LUMENS/FT	120-277V	11W/FT	4" WIDTH RECESSED LED LINEAR FIXTURE. 1% 0-10V DIMMING. CONFIRM CEILING TYPE WITH ARCHITECT (15/16 GRID VS 9/16 GRID) - CEILING TYPE MOUNT CAN NOT BE RETROFITTED IN FIELD.
B		SPECTRUM	SGABX-80L-40K-XW-D510-1-BH27-RABFBX-SG-WF	LED, 4000K 8000 LUMENS	120V	58W	8" ROUND OPEN APERTURE DEEP RECESSED RECESSED LED ADJUSTABLE ACCENT LIGHT. TILTS 35 DEGREES, ROTATES 360 DEGREES.
C		KIM LIGHTING	CY1-25-4K8-2-WG-WG-UNV-DBT-CB	LED, 4000K 2500 LUMENS	120-277V	25W	WALL SCONCE. UP/DOWN LIGHT WITH WALL GRAZE OPTIC.
E							SEE AISLE LIGHT DETAILS ON SHEET E3.0.
F		CANARM OR EQUAL	CP56D10N		120V	72W	56" DIAMETER 3-BLADE FAN. BLACK METAL STRAIGHT BLADES.
X		BEGHELLI OR EQUIVALENT	BRZ-LR-U-W-AT	LED	120-277V	5W	RED LED COMBO EXIT LIGHT WITH LED STRIP EMERGENCY LIGHT BAR AND 90-MINUTE BATTERY BACKUP. UNIVERSAL MOUNTING. SELF DIAGNOSTICS.

NOTES:

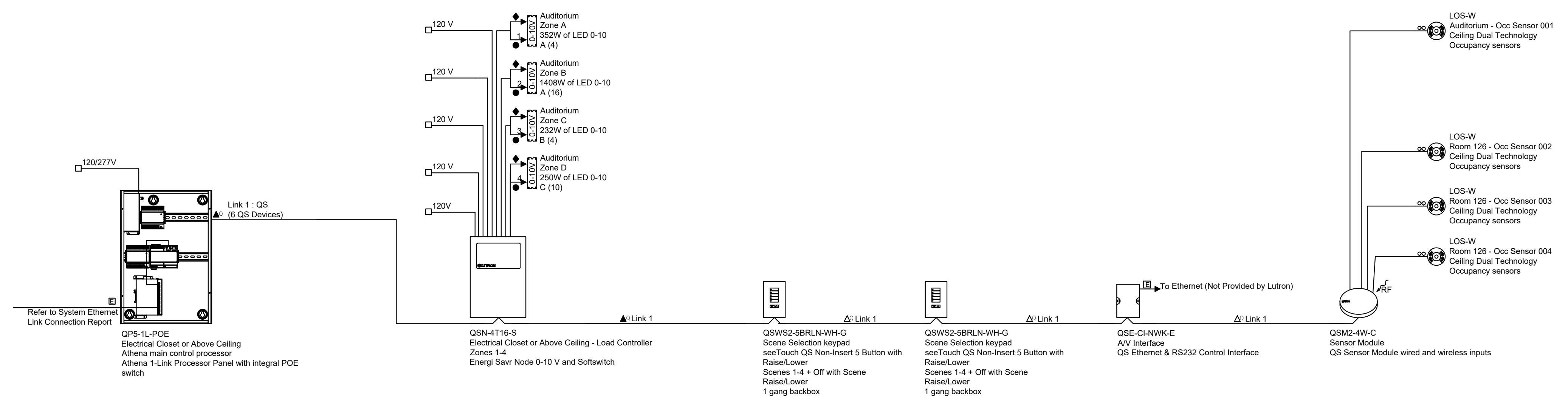
- FIXTURES SHALL BE APPROVED WITH ALL NECESSARY MOUNTING HARDWARE, OPTIONS, LAMPS AND COMPONENTS AS REQUIRED FOR THE INSTALLATION AND AS DESCRIBED IN THE SCHEDULE.
- PROVIDE SEPARATE POWER SUPPLIES, MOUNTING BRACKETS, END CAPS, ACCESSORIES AND ALL COMPONENTS TO ENSURE A COMPLETE AND CLEAN INSTALLATION.
- COORDINATE EXACT MOUNTING DETAILS, COLORS AND LENGTHS WITH ARCHITECTURAL DETAILS PRIOR TO ORDERING.
- ALL EXIT SIGNS AND EMERGENCY LIGHTS SHALL BE CIRCUITED TO THE LINE SIDE OF THE LOCAL AREA LIGHTING SWITCH.
- EQUAL FIXTURES IN APPEARANCE, QUALITY AND PERFORMANCE MAY BE SUBMITTED UNLESS OTHERWISE NOTED BY THE ENGINEER, ARCHITECT OR OWNER.

KEYNOTES:

- EXTEND AND REWORK EXISTING LIGHTING CIRCUIT AS REQUIRED TO POWER NEW LIGHTS IN NEW DROP CEILING GRID. CONTRACTOR TO VERIFY EXISTING CIRCUIT. #12 WIRE AND 3/4"C. TYPICAL ALL LIGHTING CIRCUITS AND FAN CIRCUITS.



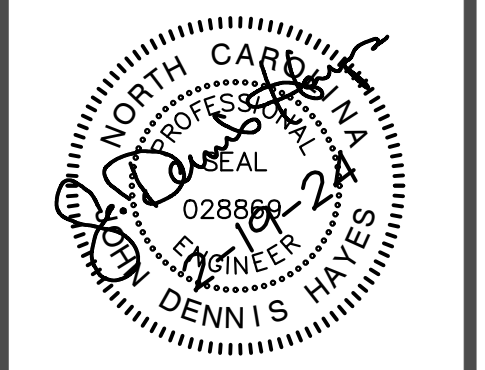
North Key Plan
No Scale



3 Lighting Control System Riser Diagram
E3.1 SCALE: NONE

RATED WALL LEGEND	
	1 HOUR RATED FIRE BARRIER

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Lighting Plan

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TELECOMMUNICATIONS

110 TWISTED PAIR TERMINATION BLOCK
 ADF AREA DISTRIBUTION FACILITY
 BDC BUILDING DISTRIBUTION FRAME
 BEF BUILDING ENTRANCE FRAME
 BO BY OTHERS
 CAB TELECOM CABINET OR ENCLOSURE
 CONN CONNECTOR
 CSC COPPER SPLICE CLOSURE
 CVE CONTROLLED ENVIRONMENT VAULT
 FDF FIBER DISTRIBUTION FACILITY
 FS FIBER SHELF/FIBER TERMINATION PANEL
 FSC FIBER OPTIC SPLICE CLOSURE
 HH HANDHOLE
 IDC INTERMEDIATE DISTRIBUTION TELECOMMUNICATIONS ROOM
 IDP INTERMEDIATE DISTRIBUTION FRAME
 ISP INSIDE PLANT - CABLE WITHIN A BUILDING
 IT INFORMATION TECHNOLOGY
 LAN LOCAL AREA NETWORK
 MDC MAIN DISTRIBUTION TELECOMMUNICATIONS ROOM
 MDF MAIN DISTRIBUTION FRAME
 MH MANHOLE, MAINTENANCE HOLE
 MPOE MINIMUM POINT OF ENTRY
 OCF OPTICAL CABLE ENTRANCE FACILITY
 OSP OUTSIDE PLANT - CABLE OUTSIDE A BUILDING
 PAV PAVEMENT
 PC PLASTIC CONDUIT
 PG PAIR GROUP
 POP POINT OF PRESENCE
 PR PAIR
 PVC POLYVINYL CHLORIDE
 RU RACK UNIT
 R/W RIGHT-OF-WAY
 SC SPLICE CLOSURE
 SCS STRUCTURED CABLING SYSTEM
 SER SERIAL
 SMR SURFACE MOUNTED RACEWAY
 SS FIBER SPLICE SHELF
 TC TELECOM CONDUIT
 TCH TELECOM CONDUIT SLEEVE, HORIZONTAL
 TOR TELECOM HORIZONTAL AND VERTICAL RISER CONDUIT
 TCT TELECOM CABLE TRAY
 TEC TELECOM ENTRANCE CONDUIT
 TEL TELEPHONE
 TELECOM TELECOMMUNICATIONS
 TERM TERMINAL
 TP TWISTED PAIR
 TPB TELECOM PULL BOX
 TR TELECOM ROOM
 TSL TELECOM WALL OR FLOOR SLOT
 TSV TELECOM CONDUIT SLEEVE, VERTICAL
 WAN WIDE AREA NETWORK

ELECTRICAL

A or AMP AMPERE
 BND BOND(NG)
 C CONDUIT
 ELEC ELECTRIC(AL)
 ENT ELECTRICAL METALLIC TUBING
 ENT ELECTRICAL NON-METALLIC TUBING
 GRC GALVANIZED RIGID CONDUIT
 GND GROUND
 Hz HERTZ
 IG ISOLATED GROUND
 IMG INTERMEDIATE METALLIC CONDUIT
 PB PULL BOX
 PLN PANEL
 PWR POWER
 UPS UNINTERRUPTABLE POWER SUPPLY
 V VOLT
 VAC VOLTS, ALTERNATING CURRENT
 DC VOLTS, DIRECT CURRENT
 W WATT
 XFMR TRANSFORMER

GENERAL

(e)or(E) EXISTING
 (d)or(N) NEW
 ABV ABOVE
 ACH ABOVE COUNTER HEIGHT
 ACT ACOUSTICAL CEILING TILE
 ADJ ADJUST(ABLE)
 AFC ABOVE FINISHED CEILING
 AFF ABOVE FINISHED FLOOR
 AFS ABOVE FINISHED GRADE
 ALT ALTERNATE
 ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
 APPROX APPROXIMATE
 ARCH ARCHITECT(URAL)
 ASA AMERICAN STANDARDS ASSOCIATION
 AV AUDIOVISUAL
 AVC AUDIOVISUAL CONTRACTOR
 BET BETWEEN
 BFC BELOW FINISHED CEILING
 BLDG BUILDING
 BLW BELOW
 CB CEILING BOX
 C-C CENTER TO CENTER
 CL CENTER LINE
 CLG CEILING
 CLR CLEAR
 CMU CONCRETE MASON UNIT
 COL COLUMN
 CONC CONCRETE
 CONT CONTINUOUS
 COORD COORDINATE, COORDINATION
 CORR CORRIDOR
 DED DEDICATE, DEDICATED
 DEMO DEMONSTRATION
 DEPT DEPARTMENT
 DET DETAIL
 DIM DIMENSION
 DIST DISTANCE
 DTV DATA TELECOMMUNICATION CONTRACTOR
 DWG DRAWING
 EA EACH
 EC ELECTRICAL CONTRACTOR
 ELEV ELEVATION
 EMERG EMERGENCY
 EQ EQUAL
 EQUIP EQUIPMENT
 EQUIV EQUIVALENT
 EWB ELECTRONIC WHITE BOARD
 EXT EXTERIOR
 FCC FEDERAL COMMUNICATIONS COMMISSION
 FIN FINISH
 FLEX FLEXIBLE
 FLOOR FLOOR

WIRE AND CABLE

AFWM BONDED FILL FLOODED TWISTED CABLE
 ARMM RISER ARMORED BONDED MULTIPAIR CABLE
 AWG AMERICAN WIRE GAUGE
 CAT3 CATEGORY 3 TWISTED PAIR COPPER CABLE
 CAT4 CATEGORY 4 TWISTED PAIR COPPER CABLE
 CAT5 CATEGORY 5 TWISTED PAIR COPPER CABLE
 CAT5e CATEGORY 5 ENHANCED TWISTED PAIR COPPER CABLE
 CAT6 CATEGORY 6 TWISTED PAIR COPPER CABLE
 CM NEC, COMMUNICATIONS CABLE
 CMP NEC, COMMUNICATIONS PLENUM CABLE
 CMR NEC, COMMUNICATIONS RISER CABLE
 COAX COAXIAL CABLE
 FO FIBER OPTIC
 HDPE HIGH DENSITY POLYETHYLENE
 LTF LOOSE TUBE FILLED & FLOODED
 MDPE MEDIUM DENSITY POLYETHYLENE
 MM MULTIMODE FIBER OPTIC CABLE
 MPP NEC, MULTIPURPOSE PLENUM CABLE
 OFC NEC, OPTICAL FIBER CONDUCTIVE CABLE
 OFCP NEC, OPTICAL FIBER CONDUCTIVE PLENUM CABLE
 OFCR NEC, OPTICAL FIBER CONDUCTIVE RISER CABLE
 OFN NEC, OPTICAL FIBER NON-CONDUCTIVE CABLE
 OFNP NEC, OPTICAL FIBER NON-CONDUCTIVE PLENUM CABLE
 OFNR NEC, OPTICAL FIBER NON-CONDUCTIVE RISER CABLE
 SM SINGLE MODE FIBER OPTIC CABLE
 STP SHIELDED TWISTED PAIR
 TB TIGHT BUFFERED
 UTP UNSHIELDED TWISTED PAIR
 WM WIRE MANAGER/MANAGEMENT

SYMBOLS

POUND OR NUMBER
 & AND
 @ AT
 ° FOOT OR FEET
 " INCH OR INCHES
 +/- or ± PLUS OR MINUS
 < LESS THAN
 = EQUAL
 > GREATER THAN
 ° DEGREES, ANGULAR MEASURE
 ¶ PARALLEL
 ∅ DIAMETER
 ∠ ANGLE

COLOR CODE

A ALMOND
 B BROWN
 C CRIMSON RED
 E BLACK
 G GRAY
 I IVORY
 L BLUE
 O ORANGE
 P PURPLE
 R DARK RED
 V GREEN
 W WHITE
 Y YELLOW

MEASUREMENTS

BTU BRITISH THERMAL UNIT
 D or Dp DEEP
 DIA DIAMETER
 FT FOOT OR FEET
 H or HGT HEIGHT or HIGH
 ID INSIDE DIAMETER
 IN INCH
 L LENGTH or LONG
 Lb POUND
 LIN LINEAR
 M METER
 mm MILLIMETER
 OD OUTSIDE DIAMETER
 R RADIUS
 RAD RADIANS
 um MICRON
 W WIDE
 WT WEIGHT
 YD YARD

DIRECTIONAL

DN DOWN
 E EAST
 HORIZ HORIZONTAL
 LH LEFT
 L LEFT HAND
 N NORTH
 PERP PERPENDICULAR
 R RIGHT
 RH RIGHT HAND
 S SOUTH
 V VERTICAL
 W WEST

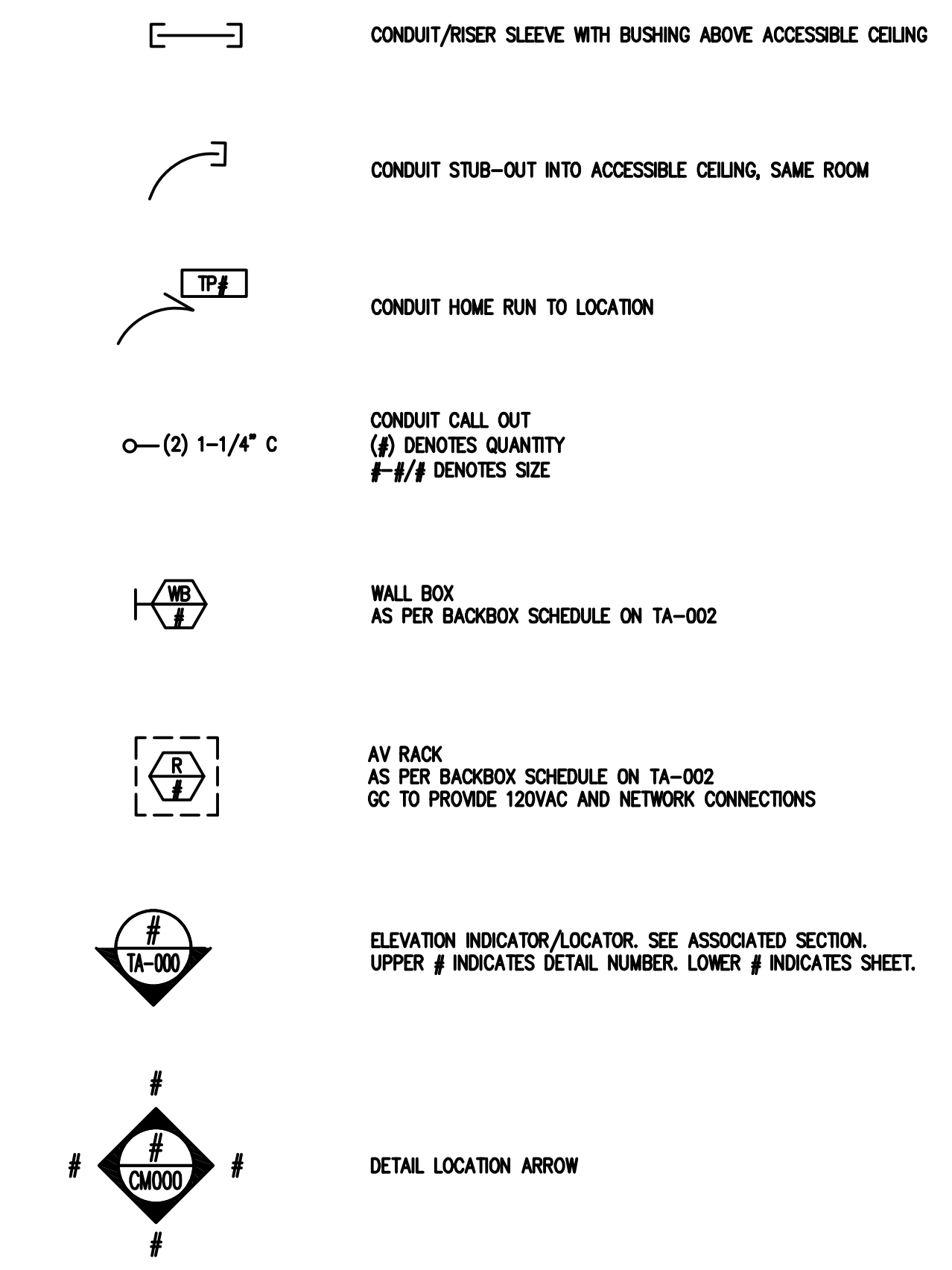
ASSOCIATION/

ELECTRONICS INDUSTRY ALLIANCE
 TME TO MATCH EXISTING
 TYP TYPICAL
 UBC UNIFORM BUILDING CODE
 UC UNDER COUNTER
 UL UNDERWRITERS LABORATORY
 UN UNLESS OTHERWISE NOTED
 VF VERIFY IN FIELD
 W/ WITH
 W/O WITHOUT
 WD WOOD

- AUDIO CONNECTORS:** ALL CONNECTIONS TO SCREW CLAMP OR BINDING POST TERMINALS REQUIRE APPROPRIATELY COLOR CODED FLANGED OR SNAP SPADE TYPE LUGS. BARE WIRE CONNECTED TO A BINDING POST IS NOT ACCEPTABLE. GAS TIGHT INSULATION DISPLACEMENT "PUNCH-DOWN BLOCKS" ARE ACCEPTABLE TERMINAL CONNECTIONS FOR MICROPHONE AND LINE LEVEL INTERCONNECTIONS WITHIN EQUIPMENT ENCLOSURES.
- LOUDSPEAKER CONNECTORS:** ALL CONNECTIONS TO SCREW CLAMP OR BINDING POST TERMINALS REQUIRE APPROPRIATELY COLOR CODED FLANGED OR SNAP SPADE TYPE LUGS. BARE WIRE CONNECTED TO A BINDING POST IS NOT ACCEPTABLE. FOR CONSTANT VOLTAGE SYSTEMS CRIMP CONNECTIONS AT LOUDSPEAKERS ARE ACCEPTABLE. WIRE NUTS ARE NOT.
- VIDEO CONNECTORS:** ALL COAXIAL CABLE CONNECTIONS SHALL BE MADE WITH CRIMP TYPE CONNECTORS FOR BOTH SHIELD AND INNER CONDUCTOR. INSTALL WITH MANUFACTURER'S APPROVED ASSEMBLY METHODS AND TOOLS. CONNECTORS ATTACHED TO COAXIAL CABLE SHALL BE BNC STYLE CONNECTORS. USE BNC TO W/F ADAPTER OR BNC TO RCA ADAPTER AS APPROPRIATE FOR THE EQUIPMENT BEING CONNECTED.
- RF CONNECTORS:** ALL RF CABLE CONNECTIONS SHALL BE MADE WITH CRIMP TYPE CONNECTIONS FOR BOTH THE SHIELD AND INNER CONDUCTOR. INSTALL WITH MANUFACTURER'S APPROVED ASSEMBLY METHODS AND TOOLS. CONNECTORS ATTACHED TO RF CABLE SHALL BE "F" STYLE CONNECTORS.
- RJ CONNECTORS:** ALL RJ CABLE CONNECTIONS SHALL BE MADE WITH CRIMP TYPE CONNECTIONS. RJ45 CONNECTIONS ARE TO BE MADE WITH SHIELDED GROUNDING CONNECTORS.
- SIGNAL GROUNDING:** USE THE RACK AS A COMMON POINT OF GROUNDING FOR ALL TECHNICAL SYSTEMS. THE RACK IS TO BE GROUNDED / BONDED TO EARTH. CABLE SHIELDS SHALL ONLY BE USED FOR SHIELDING AND CONNECTED TO GROUND AT THE RACK ONLY. ALL RACK-MOUNTED EQUIPMENT SHALL BE CHECKED FOR GROUND CONTINUITY BETWEEN CHASSIS AND THE RACK.
- CABLING:**
 - ALL CABLING IS TO BE CONTINUOUS AND UN-SPLICED.
 - CABLING NOT IN CONDUIT IS TO BE SUPPORTED FROM THE BUILDING STRUCTURE BY J-HOOKS. CABLES ARE NOT TO BE SUPPORTED FROM CEILING WIRES OR OTHER CONVEYANCE SYSTEMS.
 - PLENUM RATED CABLES AND CABLE TIES MUST BE USED WHEN CABLES ARE LOCATED IN AN AIR PLENUM.
 - CABLES WITHIN RACKS SHALL BE BUNDLED AND LACED NEATLY TO SUPPORT MEMBERS WITH A SERVICE LOOP LARGE ENOUGH TO MAINTAIN CONVENIENT ACCESS TO ALL EQUIPMENT CONNECTIONS.
 - EQUIPMENT POWER CABLE IS TO BE SEPARATED FROM SIGNAL CABLES WITH IN ANY ENCLOSURE. PROVIDE THE MAXIMUM SEPARATION POSSIBLE WITHIN THE ENCLOSURE.
- WIRING:** ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NETWORK AND BROADCAST STANDARD PRACTICES. CABLE JACKET SHALL BE COLOR CODED TO MAINTAIN A CONSISTENT IDENTIFICATION OF PHASING.
- MARKINGS:** PERMANENTLY MARK ALL CONNECTORS, CABLES, AND CABLE TERMINATIONS TO INDICATE THEIR FUNCTION AS IT CORRESPONDS TO THE WIRING DIAGRAM. ALL CABLE PAIRS SHALL BE CODED WITH PERMANENTLY ATTACHED LABELS ON THE CABLE ENDS WITH CONSISTENT COLOR-CODED MARKINGS TO INDICATE THEIR FUNCTION. SEE CABLE LABEL DETAIL (DETAIL 5/TA-400).
- AESTHETICS:** COORDINATE THE ELEVATION/LOCATION, FINISH AND COLOR OF ALL PLATES, WALL SWITCHES, FLOOR BOXES AND JUNCTION BOXES WITH THE CONSULTANT.
- VENTILATION:** PROVIDE ADEQUATE VENTILATION IN EQUIPMENT RACKS TO CONFORM TO THE EQUIPMENT MANUFACTURER'S TEMPERATURE REQUIREMENTS.
- FASTENERS, HANGERS, SUPPORTS:** PROVIDE FASTENERS, SUPPORTS AND SEISMIC RESTRAINTS TO ADEQUATELY SUPPORT THE LOAD.
- WORKMANSHIP:** INSTALLATION OF ALL WORK INCLUDING CABLING SHALL BE NEAT. ALL BOXES INCLUDING THE LOUDSPEAKER ENCLOSURES, EQUIPMENT RACKS, ETC. SHALL BE PLUMB AND SQUARELY LOCATED. REPLACE/PATCH ALL CEILING, WALLS AND FLOOR REMOVED OR MODIFIED FOR THIS WORK WHEN THE WORK IS COMPLETE. LEAVE THE JOB SITE CLEAN AND FREE FROM MARKS AND BLEMISHES.
- DIMENSIONED LOCATIONS:** AV DEVICE LOCATIONS ILLUSTRATED WITH DIMENSIONS ARE CRITICAL TO DESIRED PERFORMANCE. CONTRACTOR SHALL NOT FIELD ADJUST LOCATIONS WITHOUT COORDINATING WITH THE DESIGN CONSULTANT.
- ALL ENGRAVED LABELS SHALL BE FILLED WITH WHITE OR BLACK AS REQUIRED FOR THE GREATEST CONTRAST BETWEEN THE ENGRAVING AND FACEPLATE/LABEL BACKGROUND COLOR.

GENERAL NOTES

- POWER:**
 - EACH CIRCUIT THAT SERVES TECHNOLOGY SYSTEMS MUST HAVE A DEDICATED GROUND AND NEUTRAL CONDUCTOR. SHARED GROUNDS AND NEUTRALS ARE NOT ACCEPTABLE.
 - ALL CIRCUITS ARE 120 VAC, 60 HZ, 1-PHASE, UON.
 - NOMINAL ELECTRICAL VOLTAGE IS 120 VAC. VOLTAGE MUST BE MAINTAINED WITH +/-10 PERCENT OF NOMINAL AT ALL TIMES FOR PROPER EQUIPMENT OPERATION.
- TECHNOLOGY CONVEYANCE SYSTEM:**
 - CONDUITS WHICH CARRY POWER MUST BE SEPARATED FROM TECHNOLOGY CONDUITS BY 12 INCHES FOR VOLTAGES OVER 100 VAC, 24 INCHES FOR VOLTAGES OVER 200 VAC AND 48 INCHES FOR ALL VOLTAGES OVER 300 VAC. WHERE POWER AND TECHNOLOGY CABLING AND CONDUIT CROSS, THEY SHOULD DO SO AT RIGHT ANGLES.
 - ALL CONDUIT SHALL BE CLEANED, DEBURRED AND HAVE PULL-STRINGS INSTALLED.
 - ALL INTERIOR AND ABOVE GRADE CONDUIT SHALL BE SOLID FERRIC METALLIC. ALL CONDUIT BELOW GRADE SHALL BE PLASTIC. CONTRACTOR SHALL NOT CHANGE CONDUIT TYPE WITHOUT DESIGN CONSULTANT APPROVAL.
 - PROVIDE PULL BOXES USING SWEEP ELBOWS AS REQUIRED BY CONDUIT PATH, CABLE BEND RADIUS OR PULLING TENSION LIMITS.
 - BACK BOXES TO BE SET TO ALLOW ALL TECHNOLOGY FACEPLATES TO BE INSTALLED TIGHT TO THE ADJACENT SURFACE.
- PRIOR TO THE START OF ACTIVE EQUIPMENT INSTALLATION THE EQUIPMENT SPACES SHALL BE:**
 - CLEAN AND SEALED FROM DUST PRIOR TO EQUIPMENT INSTALLATION.
 - MAINTAINED AT A TEMPERATURE OF 72 ± 10 DEGREES FAHRENHEIT AT ALL TIMES.
 - MAINTAINED AT A RELATIVE HUMIDITY BETWEEN 40 AND 70 PERCENT AT ALL TIMES.
- ALL PHONE, DATA, CABLE AND NETWORK LINES ARE TO BE PROVIDED BY OTHERS.
- ALL BLOCKING TO BE PROVIDED BY GC.
- VENTS, GRILLS AND GROMMETS PROVIDED BY THE CASEWORK/MILLWORK VENDOR.



5

PROJECT SYMBOLS

2

ABBREVIATIONS

FLOUR FLOUR
 FUT FUTURE
 GA GA
 GALV GALVANIZED
 GC GENERAL CONTRACTOR
 GWS GYPSUM WALL BOARD
 IFC IN FINISHED CEILING
 IFP IN FINISHED FLOOR
 INCAND INCANDESCENT
 INCL INCLUDE, INCLUDING
 INFO INFORMATION
 INT INTERIOR
 INT INTERIOR
 LVI LOW VOLTAGE INTERFACE
 MAX MAXIMUM
 MECH MECHANICAL
 MEP MECHANICAL, ELECTRICAL, AND PLUMBING
 MFG MANUFACTURER
 MIN MINIMUM
 MISC MISCELLANEOUS
 NA NOT APPLICABLE
 NEC NATIONAL ELECTRICAL CODE
 NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
 NFPA NATIONAL FIRE PROTECTION ASSOCIATION
 NIC NOT IN CONTRACT
 No. NUMBER
 NOM NOMINAL
 NTS NOT TO SCALE
 OC ON CENTER
 OFCI OWNER FURNISHED CONTRACTOR INSTALLED
 OFE OWNER FURNISHED EQUIPMENT
 OFOI OWNER FURNISHED OWNER INSTALLED
 OPPOSITE
 OSHA OCCUPATIONAL SAFETY AND HEALTH ADMIN.
 OVHD OVERHEAD
 PLC PERFORMANCE LIGHTING CONTRACTOR
 PLY PLYWOOD
 PRI PRIMARY
 PROP PROPOSED
 PSC PROTECTION SCREEN CONTROL
 QTY QUANTITY
 RCP REFLECTED CEILING PLAN
 RCT RECEPTACLE
 REF REFERENCE
 REM REMOVE
 REPL REPLACE
 REQD REQUIRED
 RM ROOM
 SCHD SCHEDULE
 SECT SECTION
 SHT DRAWING SHEET NUMBER OR SERIES
 SIMILAR
 SPEC SPECIFICATION
 SQ SQUARE
 STD STANDARD
 STL STEEL
 SUSP SUSPEND(ED)
 SWT SWITCH
 SYM SYMMETRICAL
 TELC TELECOMMUNICATIONS CONTRACTOR
 TEMP TEMPORARY
 THK THICK(NESS)
 TIA/EIA TELECOMMUNICATIONS INDUSTRY

7

FACILITY NOTES

4

SHEET INDEX

NUMBER	DRAWING NAME								
TA-001	SHEET INDEX AND NOTES	X							
TA-101	AV FLOOR PLAN	X							
TA-301	SECTIONS AND ELEVATIONS	X							
TA-701	COORDINATION DETAILS	X							

1

SHEET INDEX AND NOTES

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**Auditorium
 Renovations
 CC Spaulding
 Elementary
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**Durham Public
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 Bute, PLLC No. 2205

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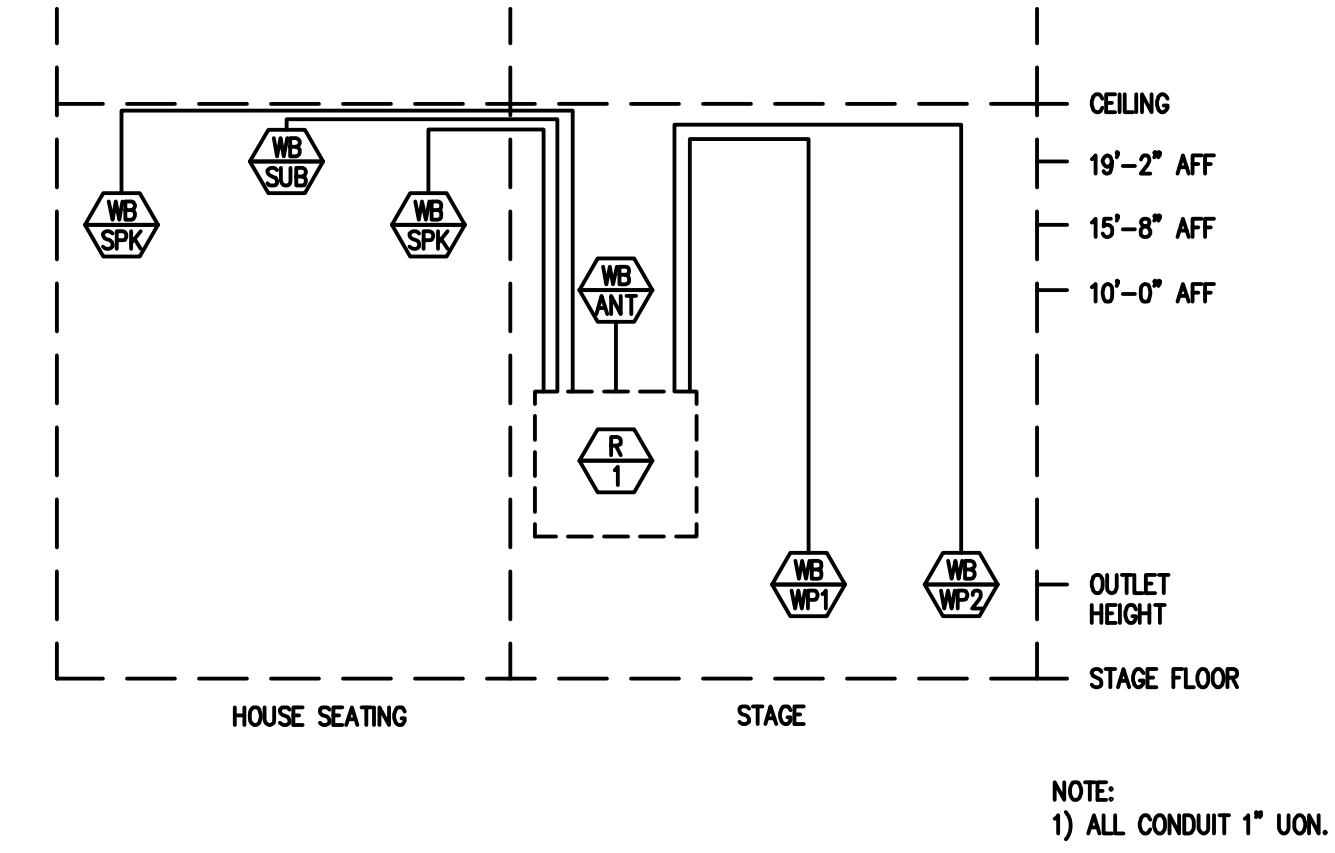
Bid Set March 7, 2024
 Date: 02/15/2023
 Revisions:
 Sheet: TA-001

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SYMBOL	DESCRIPTION	TYPE, SIZE, FLUSH MOUNT (UON)	FURNISHED / INSTALLED BY	MOUNTING HEIGHT	MOUNT LOCATION (UON)	BLOCKING	COORDINATION DETAIL	INTERFACE PLATE DETAIL	NOTES
	WALL BOX - FRONT OF HOUSE LINE ARRAY SPEAKER	SINGLE GANG, STANDARD DEPTH, FLUSH MOUNT, GROMMET PASS THRU	EC/EC	1'-6" LOWER THAN THE TOP OF THE PROSCENIUM	FRONT OF HOUSE SIDE OF PROSCENIUM WALL	--	DETAIL 1/TA701	--	
	WALL BOX - SUBWOOFER	SINGLE GANG, STANDARD DEPTH, FLUSH MOUNT, GROMMET PASS THRU	EC/EC	1/2 WAY BETWEEN THE TOP OF PROSCENIUM AND THE CEILING	FRONT OF HOUSE SIDE OF PROSCENIUM WALL	--	DETAIL 2/TA701	--	
	WALL BOX - DOWN STAGE LEFT WALL PLATE	2-GANG, 2-1/2" DEEP WALL BOX, FLUSH MOUNT	EC/EC	1'-6" A.F.F. - 1'-6" LEFT OF THE PROSCENIUM LEFT EDGE	STAGE SIDE OF PROSCENIUM WALL	--	--	DETAIL 8/TA701	
	WALL BOX - DOWN STAGE RIGHT WALL PLATE	2-GANG, 2-1/2" DEEP WALL BOX, FLUSH MOUNT	EC/EC	1'-6" A.F.F. - 1'-6" RIGHT OF THE PROSCENIUM RIGHT EDGE	STAGE SIDE OF PROSCENIUM WALL	--	--	DETAIL 8/TA701	
	WALL BOX - ALS ANTENNA	2-GANG, 2-1/2" DEEP WALL BOX, FLUSH MOUNT	EC/EC	10'-0" A.F.F. INSTALLED ABOVE THE RACK LOCATION	STAGE SIDE OF PROSCENIUM WALL	--	DETAIL 7/TA701	--	
	MIDDLE ATLANTIC EWR-16-22-SD		AVC/AVC	BOTTOM OR RACK AT 4'-0" AFF	WALL	--	DETAIL 2/TA701	--	PROVIDE (1) 20A/120VAC DUPLEX RECEPTACLE ON DEDICATED CIRCUIT DIRECTLY BEHIND RACK LOCATION

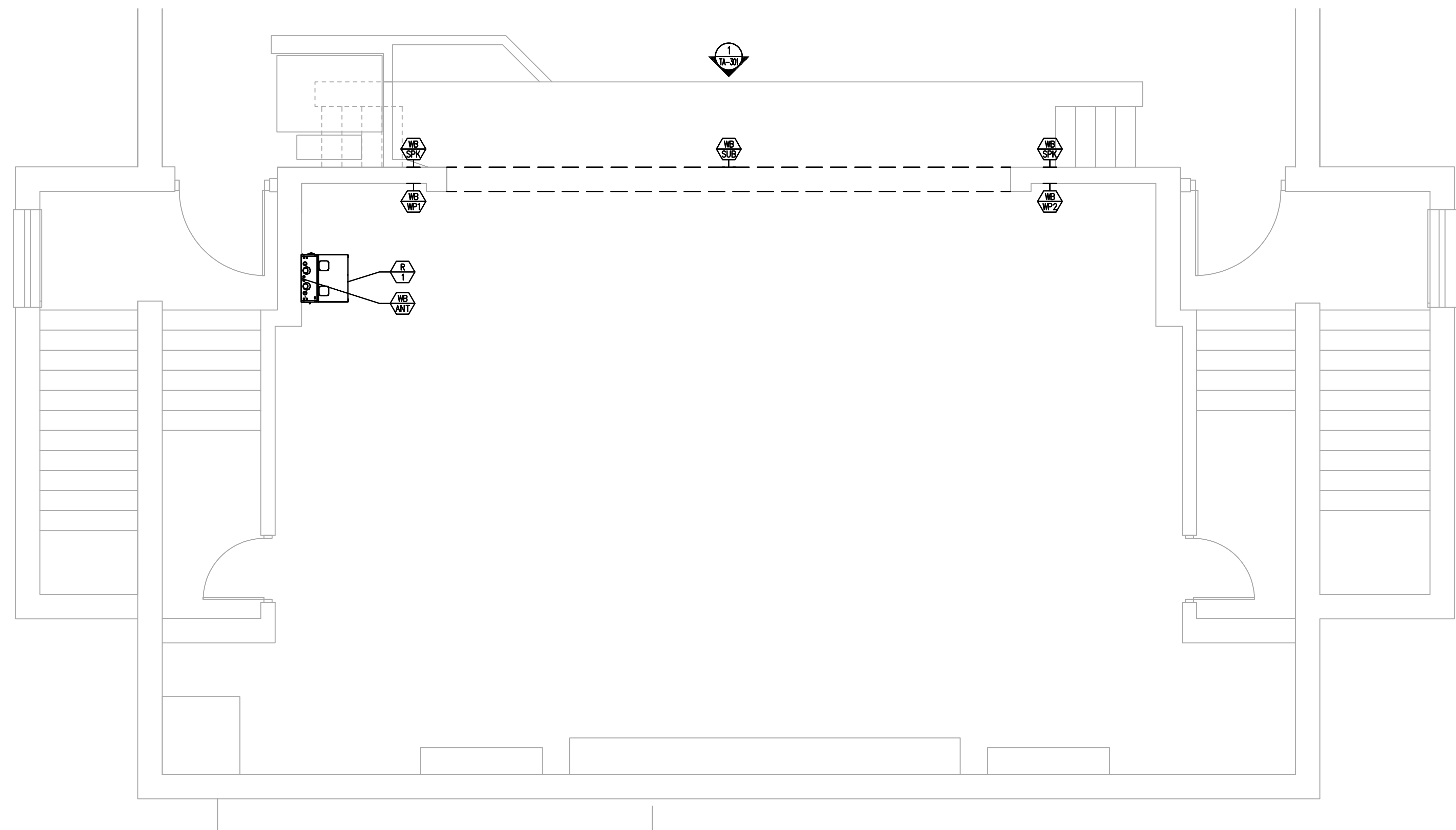
BACK BOX SCHEDULE

3



RISER DIAGRAM

2



FLOOR PLAN
SCALE: 3/8" = 1'

1

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AV FLOOR PLAN

Renovations To:

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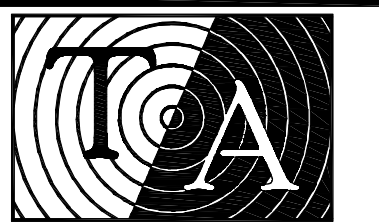
SECTIONS AND ELEVATIONS

Renovations To:

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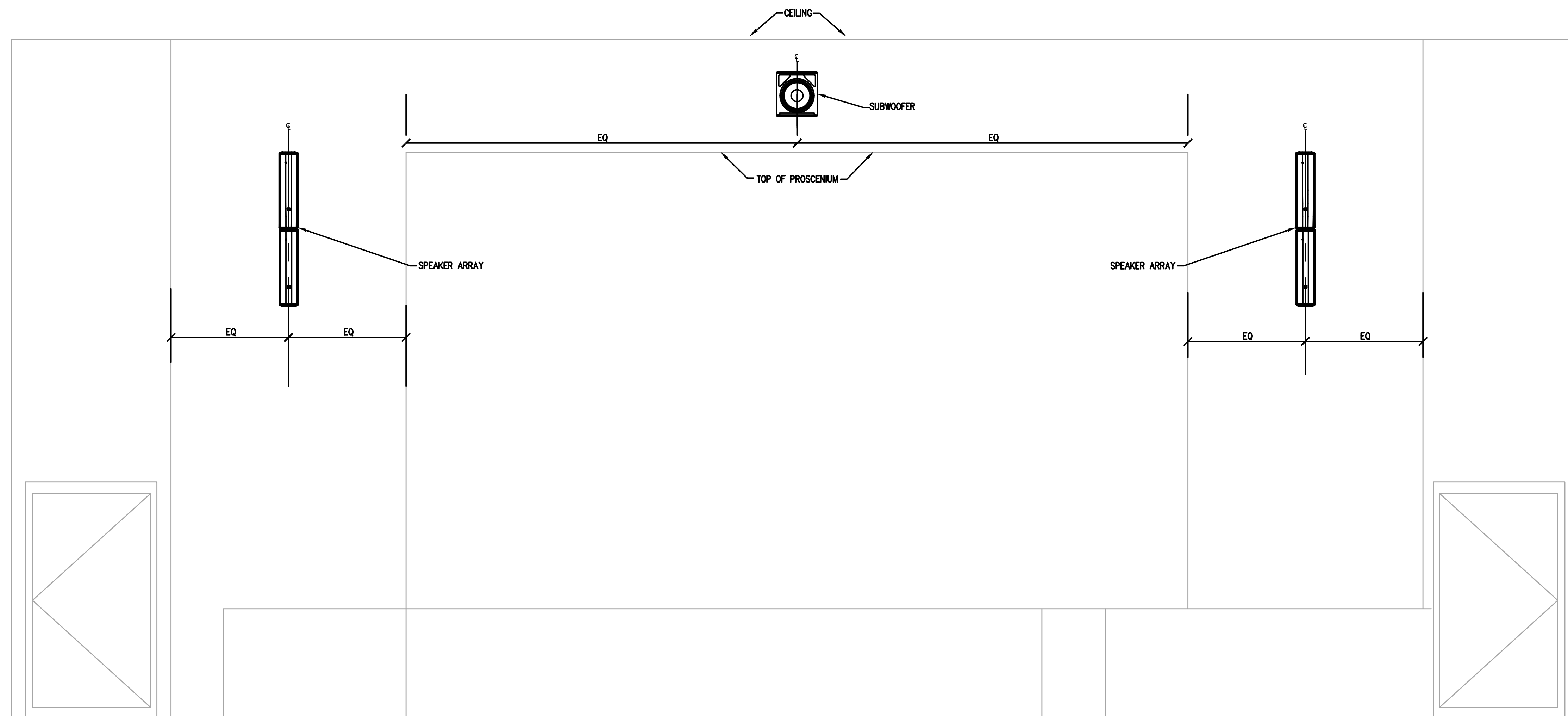
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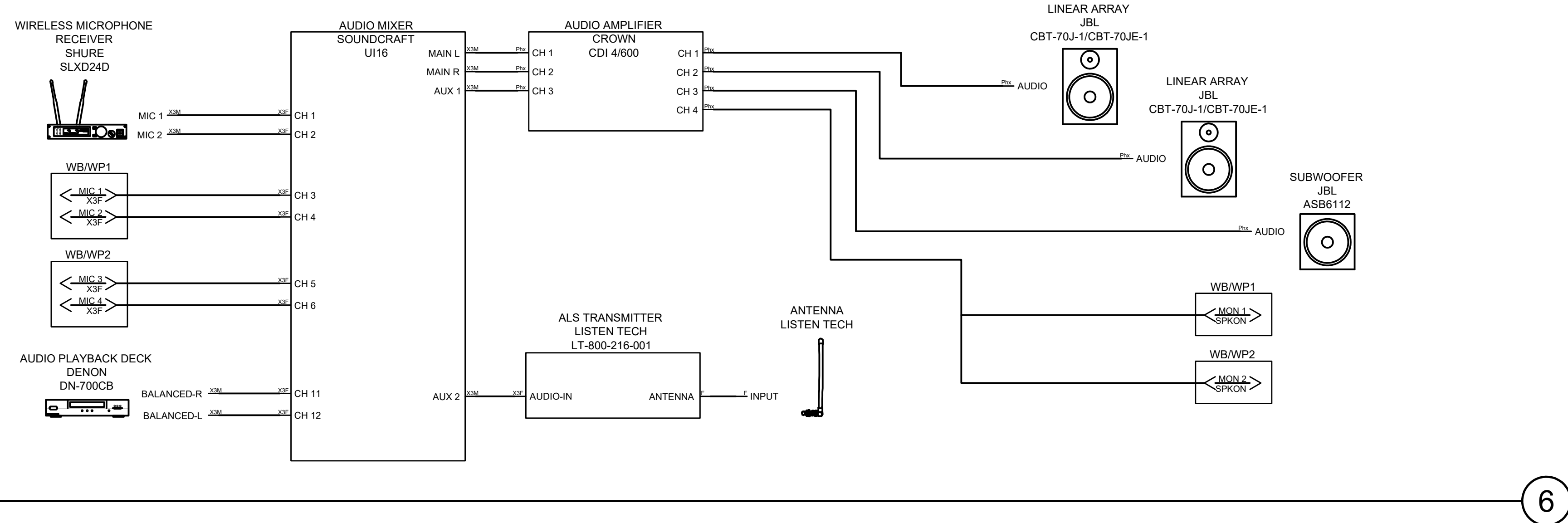
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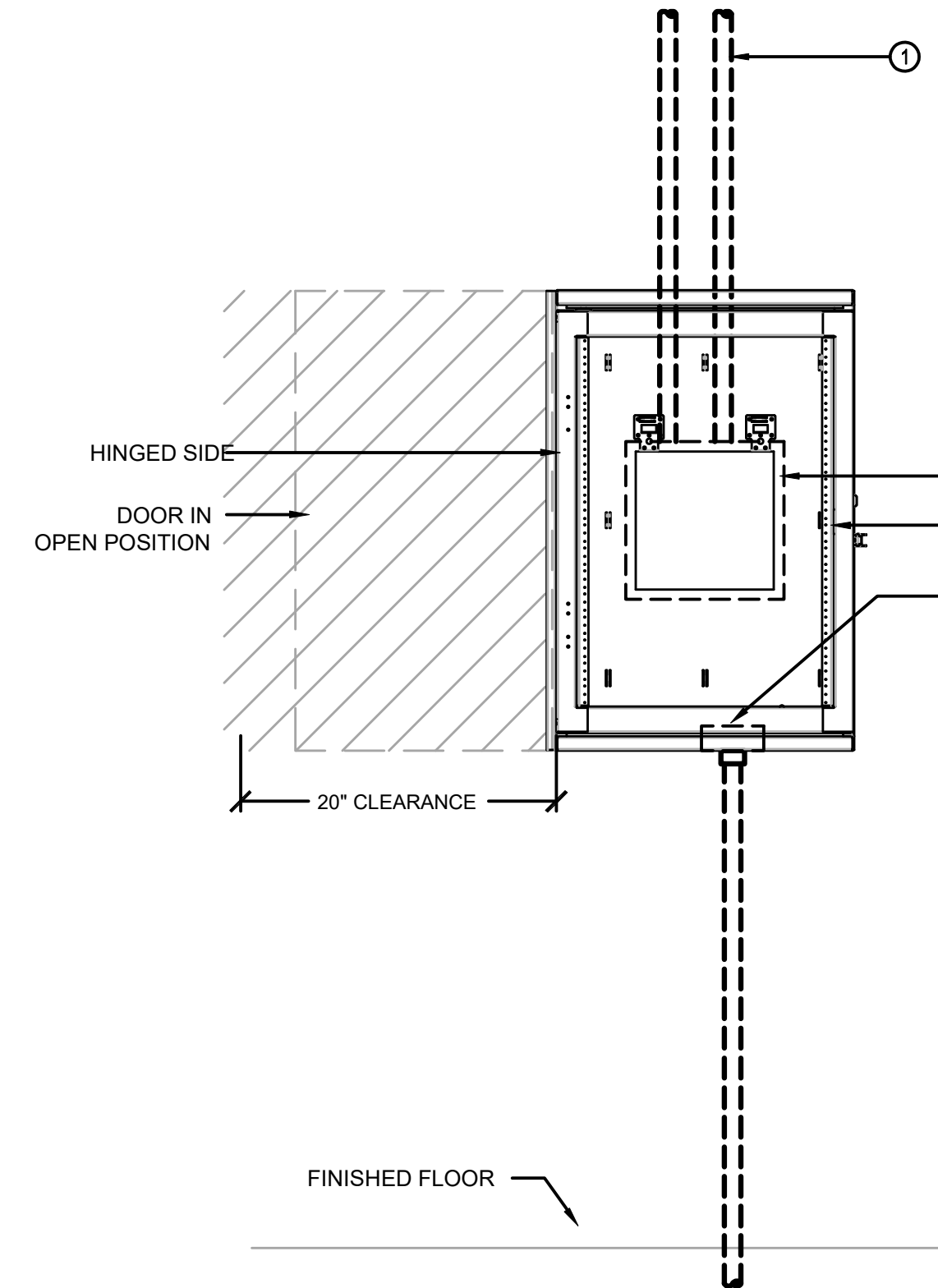
STAGE ELEVATION

SCALE: 1/2" = 1'

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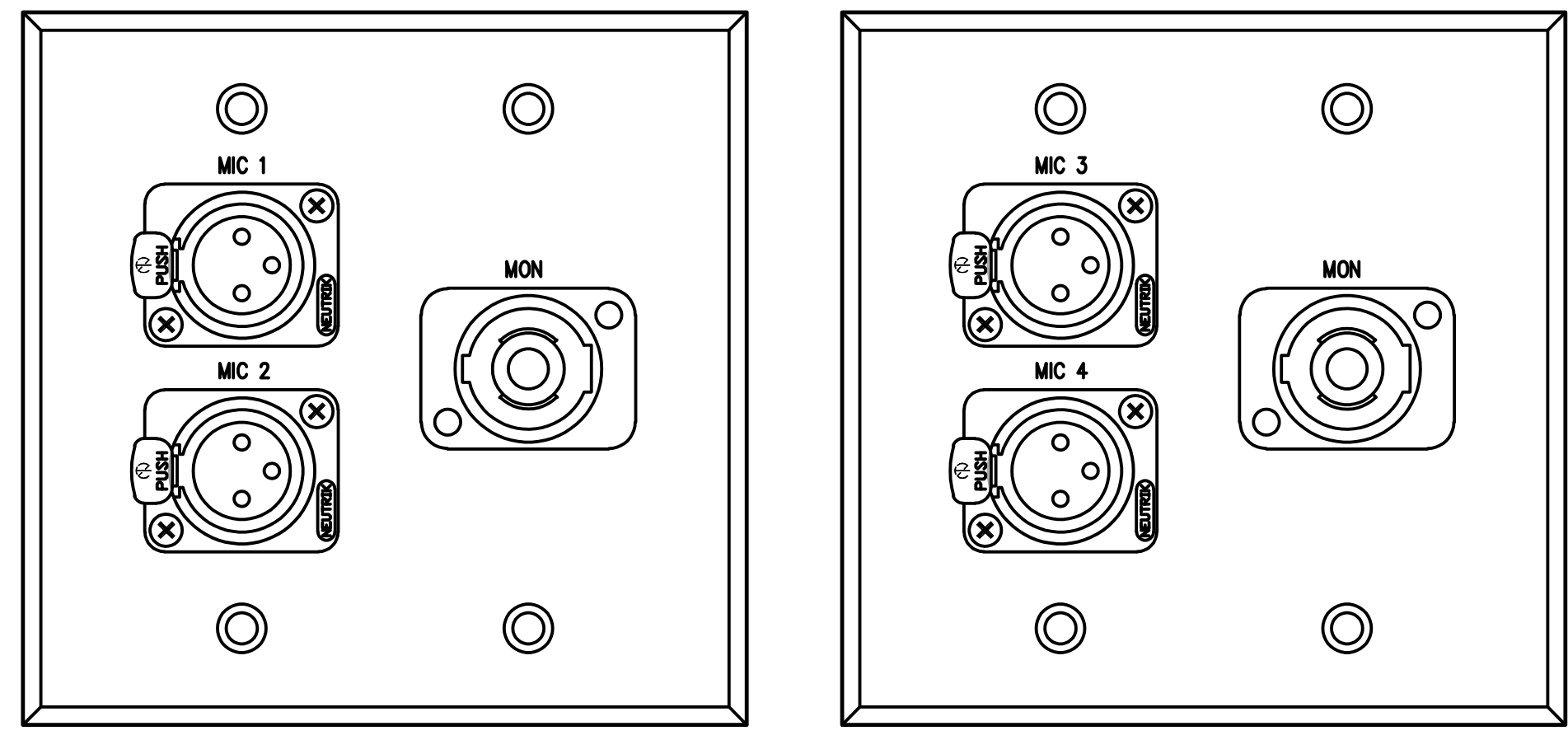
AUDIO FUNCTIONAL
SCALE: NTS



ITEM	DESCRIPTION	MFG/MODEL	BY	QTY.
①	CONDUIT	AS SPECIFIED	EC	1
②	TERMINAL PANEL	AS SPECIFIED	EC	1
③	POWER - (1) 20 AMP / 120VAC CIRCUIT	AS SPECIFIED	EC	1
④	WALL MOUNT EQUIPMENT RACK	PER SPEC SECTION 27 4116	AVC	1

NOTES:
 1. COORDINATE EXACT LOCATION OF EQUIPMENT RACK WITH ARCHITECT/SITE CONDITIONS.
 2. COORDINATE POWER AND CONDUIT REQUIREMENTS WITH ELECTRICAL ENGINEER/CONTRACTOR

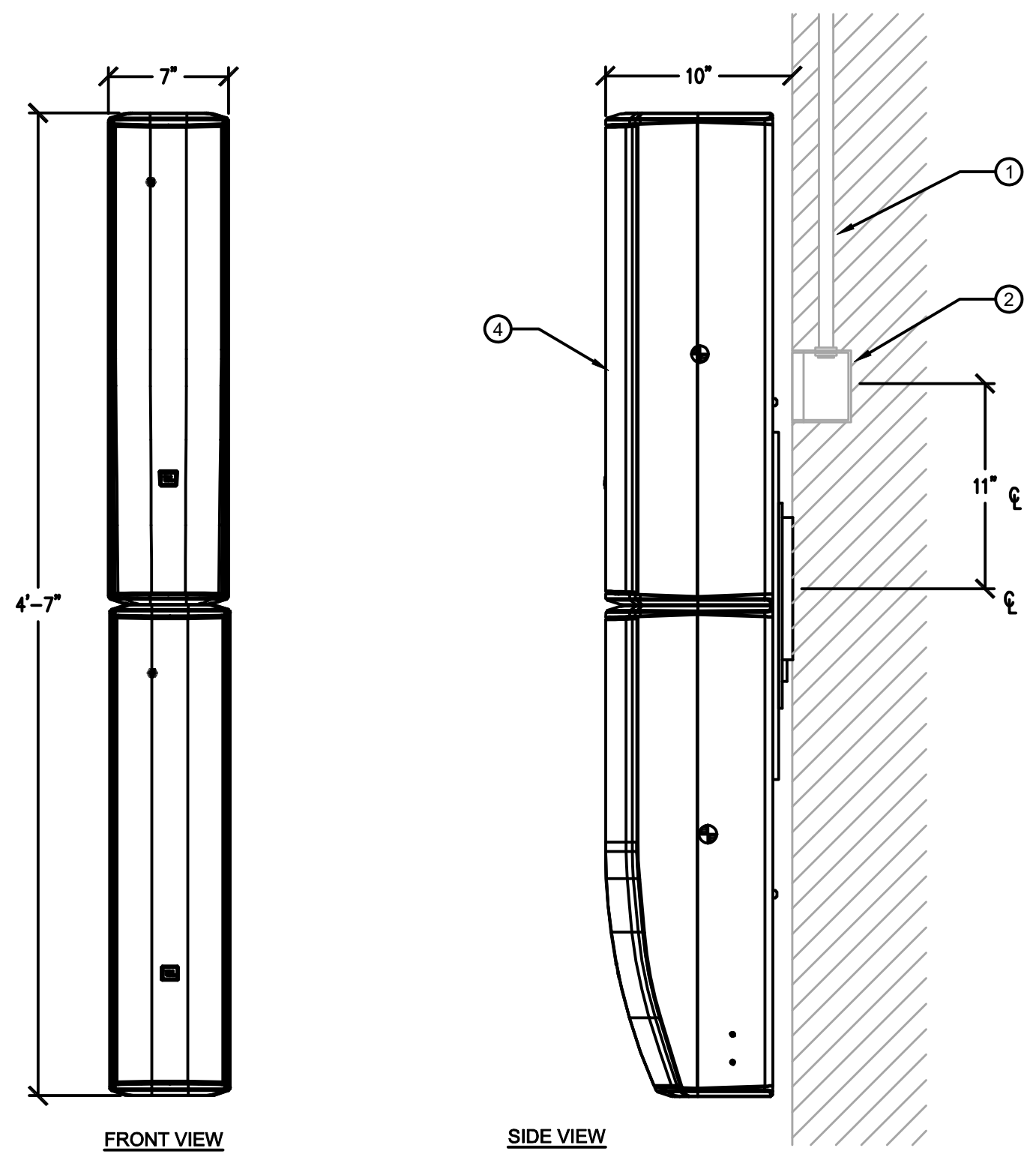
RACK MOUNTING DETAIL
SCALE: NTS



STAGE AV PLATE
SCALE: NTS

1	ID PLATE	16
2	POWER CONDITIONER [PWR]	15
3	1 SPACE BLANK	14
4	WIRELESS MIC RECEIVER [WRLS 2]	13
5	1 SPACE BLANK	12
6	MEDIA PLAYER [MDP]	11
7	1 SPACE BLANK	10
8		9
9	DIGITAL MIXER [MIXER]	8
10		7
11		6
12	1 SPACE BLANK	5
13	POWER AMPLIFIER [PA-1]	4
14		3
15		2
16	2 RU RACK DRAWER	1

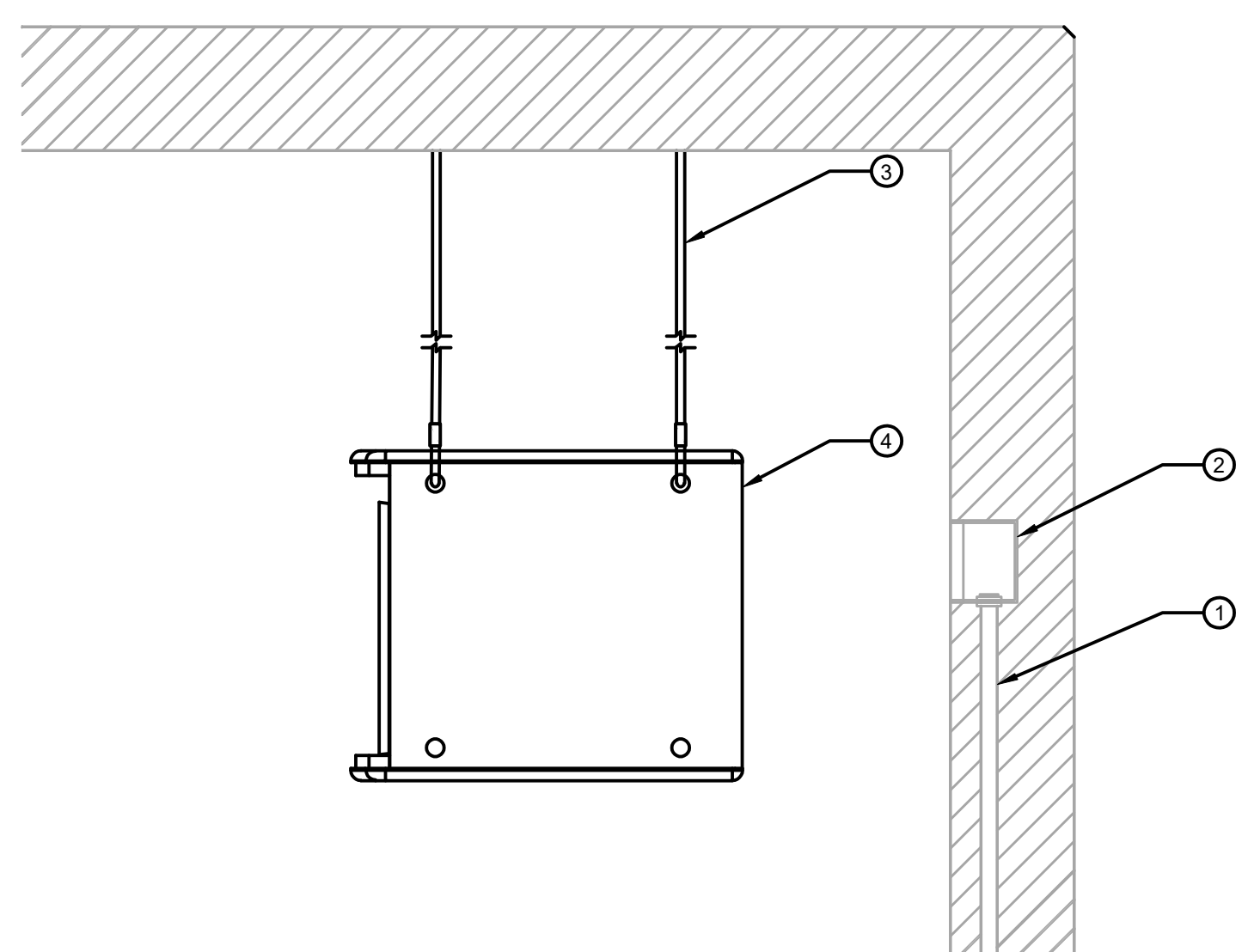
RACK ELEVATION
SCALE: NTS



ITEM	DESCRIPTION	MFG/MODEL	BY
①	CONDUIT	AS SPECIFIED	EC
②	WALL BOX	PER SPEC SECTION 27 4116	LVC
③	LOUDSPEAKER WALL MOUNT	PER SPEC SECTION 27 4116	LVC
④	LOUDSPEAKER	PER SPEC SECTION 27 4116	LVC

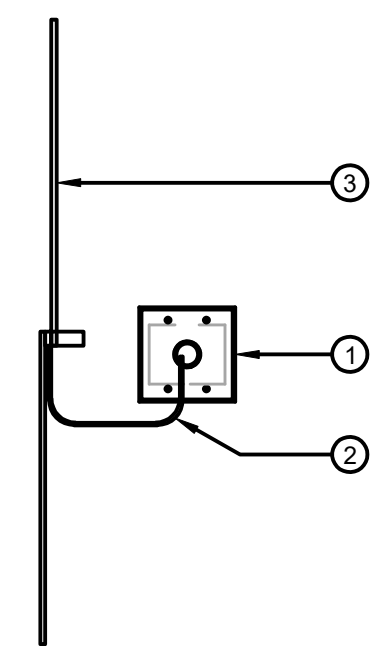
NOTES:
 1. LVC TO ADJUST SWIVEL-TILT WALL BRACKET AS REQUIRED TO PROPERLY AIM LOUDSPEAKER TO PROVIDE COVERAGE OF SPACE.

COLUMN LINE ARRAY MOUNTING
SCALE: NTS



ITEM	DESCRIPTION	MFG/MODEL	BY
①	CONDUIT	AS SPECIFIED	EC
②	WALL BOX	PER SPEC SECTION 27 4116	LVC
③	LOUDSPEAKER CEILING MOUNT	PER SPEC SECTION 27 4116	LVC
④	SUB WOOFER	PER SPEC SECTION 27 4116	LVC

SUB WOOFER MOUNTING
SCALE: NTS



ITEM	DESCRIPTION	MFG/MODEL	BY	QTY.
①	WALL PLATE	AS PER EC	EC	1
②	CABLE	AS PER 275125 SPEC	AVC	1
③	ANTENNA	AS PER 275125 SPEC	AVC	1

ADA ANTENNA
SCALE: NTS

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