

SPOTSYLVANIA COUNTY SCHOOLS

INTERIOR LIGHTING REPLACEMENT FOR BERKELEY E.S., LIVINGSTON E.S., RIVERVIEW E.S., THORNBURG M.S. & SPOTSYLVANIA H.S.



Berkeley Eementary School



Livingston Elementary School



Riverview Elementary School



Thornburg Middle School



Spotsylvania High School

June 25, 2019
Invitation to Bid No. 07252019-1400
Set No. _____
AEG. Comm. #15055-2

INVITATION TO BID

Sealed bids, in duplicate, are invited for the construction of LED Lighting Replacing in Five Spotsylvania School Buildings in Spotsylvania County, VA.

The project is generally described as replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents. BID No. 07252019 - 1400

Sealed bids will be received at **Spotsylvania County School Administration Building, 8020 River Stone Drive, Fredericksburg, VA. 22407.** The **deadline for submitting bids is 2:00 P.M. sharp, as determined by the Purchasing Office, on July 25, 2019.**

The bids will be opened publicly and read aloud **beginning at 2:00 P.M., on July 25, 2019,** at the same location.

A Bid Bond must accompany each bid and be equal to at least five (5) percent of the amount of the bid submitted. Details are contained in the Instructions to Bidders.

Procedures for submitting a bid, claiming an error, withdrawal of bids and other pertinent information are contained in the Instructions to Bidders. The Owner reserves right to accept, or reject any or all bids.

A mandatory pre-bid conference followed by site visit to Schools will be held at **10:30 A.M.** local prevailing time on **July 18, 2019** at **Maintenance Building.** Attendance at the pre-bid conference shall be mandatory for those submitting a bid. The site visits will start following completion of the pre-bid conference. See Instruction to Bidders for location address.

Any questions pertaining to the bid must be submitted, in writing, to the Owner no later than July 19, 2019 @ 12:00PM.

The contract shall be awarded on a lump sum basis. The Owner will be able to select one building or all buildings or any combination of buildings to suit the funding for the project.

The bidder is required under Title 54, Chapter 7, Code of Virginia (1950), as amended; to furnish evidence of being a licensed contractor qualified to perform a project of this magnitude. The bidder shall place on the outside of the envelope containing the bid and shall place in the bid over his signature, the following notation:

“Licensed Virginia Contractor No. _____ Class A”

License requirements for contractors are contained in Title 54, Chapter 7, Code of Virginia (1950), as amended. Additional specific qualifications are contained in the Instructions to Bidders. **FAILURE TO PROVIDE ANY REQUIRED INFORMATION OR GIVING FALSE INFORMATION MAY RESULT IN THE DISQUALIFICATION OF THE BIDDER.**

The Electronic Files of the Contract Documents for the above project, including the drawings and the specifications containing the information necessary for bidding, may be obtained from the Spotsylvania County Public Schools via electronic means beginning **June 27, 2019.**

CONTRACT TIME: Work of the Contract shall begin no later than seven (7) days after receipt of the Notice to Proceed. Substantial Completion shall be no later than **August 21, 2021** Final completion shall be no later than **September 14, 2021.**

The Instructions to Bidders shall be considered a part of the Invitation to Bid as if included herein.

Authorized By: Spotsylvania County School Board

END OF SECTION

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

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INSTRUCTIONS TO BIDDERS

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

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American Society of Civil Engineers
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INSTRUCTIONS TO BIDDERS

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ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

- A. *Bidder*--The individual or entity who submits a Bid directly to OWNER.
- B. *Issuing Office*--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- C. *Successful Bidder*--The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from the Issuing Office. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within 30 days after opening of Bids.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 OWNER and ENGINEER in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below **FAILURE TO PROVIDE ANY REQUIRED INFORMATION OR GIVING FALSE INFORMATION MAY RESULT IN THE DISQUALIFICATION OF THE BIDDER.**

A. The bidder is required under Title 54, Chapter 7, Code of Virginia (1950), as amended, to provide evidence of being a "Licensed Contractor". The bidder shall place on the outside of the envelope containing the bid and shall place in the bid over his signature the following notation:

Licensed Virginia Contractor No. _____ Class "A"

B. The Bidder shall submit with the Bid Proposal two (2) completed copies of its most recent independently audited financial statement setting forth its total current assets, net fixed assets, and other tangible assets as listed in paragraph 5.1.1 of AIA Document A-305 (1986 edition or latter) "Contractor's Qualification Statement." The Bidder's total current assets, net fixed assets and other tangible assets must equal or exceed one million dollars (\$1,000,000.00) in order to qualify for this bid.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 On request, OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.02 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;

B. visit the Site and become familiar with and satisfy Bidder as to the existing, general, local, and Site conditions that may affect cost, progress, and performance of the Work and accept such conditions;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;

D. become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;

E. promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder; and

F. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.03 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.01 A mandatory pre-bid conference followed by site visit to Maintenance Building will be held at 10:30 A.M. local prevailing time on **July 18, 2019 at Maintenance Building**. Attendance at the pre-bid conference shall be mandatory for those submitting a bid. The building address is Spotsylvania Maintenance Building – 8720 Courthouse Road, Spotsylvania, Virginia 22553. The site visits will start following completion of the Pre-Bid. Representatives of OWNER and ENGINEER will be present to discuss the Project. ENGINEER will transmit to all prospective Bidders of record such Addenda, as ENGINEER considers necessary in response to questions .

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Sites are identified in the Bidding Documents. All additional land and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work is to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to ENGINEER in writing. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of 5% of Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond on the form attached issued by a surety.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 10 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed **August 21, 2021** and (b) also completed and ready for final payment **September 14, 2021** are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified

or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the Specifications.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If the General Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute,

12.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities that are Pre-Qualified. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in paragraph 5.2 of the General Conditions.

12.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid form is included with the Bidding Documents. Additional copies may be obtained from ENGINEER.

13.02 All blanks on the Bid form shall be completed by printing in ink or by typewriter and the Bid signed. A Bid price shall be indicated for each Bid item, and breakout item listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture must be shown below the signature.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form.

13.10 The address and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number for the state of the Project, if any, shall also be shown on the Bid form.

ARTICLE 14 - BASIS OF BID

14.01 *Lump Sum*

- A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.
- B. Bid Form will breakout the cost of each building for the Owner's use to allow selecting one building or all buildings or any combination of buildings to suit the needs of the Owner and available funds.

ARTICLE 15 - SUBMITTAL OF BID

15.01 Each prospective Bidder is furnished one copy of the Bidding Documents with one copy each of the Bid form and the Bid Bond. The unbound copy of the Bid form is to be completed and submitted with the Bid security and the following data:

- A. Bidders Qualifications as described in Article 3.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title, Bid Number 07252019-1400 clearly printed in the lower left corner of the envelope, the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED" with the Bid Number. This is a rebid based on additional manufactures being selected and noted in the drawing fixture lists. A mailed Bid shall be addressed to:

Spotsylvania County Schools
Attn: Ms. Jamie Carter, Procurement Manager
8020 River Stone Drive
Fredericksburg, VA 22407

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 For the withdrawal of bids after the bid opening procedure has been completed, the OWNER has elected to use the procedure for Bid withdrawal numbered (1) contained in Code Section 11-54 of the Code of Virginia (1950), as amended, which reads as follows:

"The Bidder must give notice in writing of his claim of right to withdraw his bid within two (2) business days after the conclusion of the bid opening procedure."

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - AWARD OF CONTRACT

19.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the General Conditions.

19.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, OWNER will award the Contract to the Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 11 of the General Conditions, sets forth OWNER's requirements as to performance and payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by such Bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement as attached thereto. Within seven (7) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER. Within ten (10) days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 - EQUAL EMPLOYMENT OPPORTUNITY

22.01 EMPLOYMENT DISCRIMINATION: 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, religion, color, sex, age, handicap or natural origin, except where race, religion, color, sex, age, handicap or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

B. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such contractor is an equal opportunity employer.

C. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

D. The Contractor will include the provisions of the foregoing paragraph a, b, and c in every subcontract of over \$10,000 so that the provisions will be binding upon each subcontractor or vendor.

END OF SECTION 00 10 00

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

BID FORM

PROJECT IDENTIFICATION:

Spotsylvania Interior Lighting Replacement
BID NO. 07252019-1400
Spotsylvania County School Board
Spotsylvania, VA.

CONTRACT IDENTIFICATION AND NUMBER:

Spotsylvania Interior Lighting Replacement
BID NO. 07252019-1400
AEG. Inc., Comm. No. 15055-2

THIS BID IS SUBMITTED TO:

Spotsylvania County School Board
ATTN: Ms. Jamie Carter, Procurement Manager
8020 River Stone Drive
Fredericksburg, VA. 22407

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all, which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____
_____	_____

B. Bidder has visited the site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work. The Bidder agrees that the existing condition do not appear to be in conflict with the work shown on the documents.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

- D. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- E. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
- F. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
- G. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- I. The Bidder understands that the wiring pathways indicated on the drawings are only suggested pathways. Bidder shall make every effort to coordinate actual pathways with existing equipment and construction.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

TOTAL BASE BID AMOUNT:

Replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. Light fixtures shall be installed in existing ceiling grid and ceiling systems. Minor adjustment shall be allowed to the places for light fixtures to coordinate with immovable objects such as fixed metal ducts and sprinkler heads. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents:

TOTAL BASE BID =

(\$ _____) (use words)

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

TOTAL COST OF RELIGHTING BERKELEY E.S. =

_____ (use words)
(\$_____)

TOTAL COST OF RELIGHTING LIVINGSTON E.S. =

_____ (use words)
(\$_____)

TOTAL COST OF RELIGHTING RIVERVIEW E.S. =

_____ (use words)
(\$_____)

TOTAL COST OF RELIGHTING THORNBURG M.S. =

_____ (use words)
(\$_____)

TOTAL COST OF RELIGHTING SPOTSYLVANIA H.S. =

_____ (use words)
(\$_____)

Contract award will be based on the TOTAL BASE BID AMOUNT shown above (including any properly submitted bid modifications). The bids shall be indicated in words and numbers. In case of discrepancy, the words shall govern. The Owner can select one building or all buildings or any combination of buildings to suit the funding for the project and enter into contract for that sum with the successful low bidder base on the lump sum price of the entire project.

6.01 Bidder agrees that the Work will begin within (7) days of receipt of the Notice to proceed, and will be substantially completed on or before **August 21, 2021** and completed and ready for final payment in accordance with paragraph 9.10.1 of the General Conditions on or before **September 14, 2021.**

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.

7.01 The following documents are attached to and made a condition of this Bid:

- A. Required Bid security in the form of _____;
- B. A tabulation of Subcontractors, Suppliers [and other] individuals and entities required to be identified in this Bid;
- C. Required bidder qualifications statement with supporting data; and

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

8.01 The undersigned understands that the OWNER reserves the right to reject any or all Proposals or to waive any formality or technicality in any Proposal in the interest of the OWNER.

9.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on _____, 20____.

State Contractor License No. _____.

CONTRACTOR

BY

DATE

TITLE

BUSINESS ADDRESS

CITY

STATE

ZIP CODE

TELEPHONE NUMBER

FAX NUMBER

BID PROPSAL – ATTACHMENT A

CERTIFICATION OF CRIMES AGAINST CHILDREN

Contractor acknowledges that the implementation of this contract requires Consultant and Consultant’s employees to have direct contact with Spotsylvania County Schools’ students. Therefore, Contractor hereby certifies that neither Contractor nor, to the best of Contractor’s knowledge, its employees have been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child.

For the purposes of this certification, "direct contact with students" means being in the presence of students during regular school hours or during school sponsored activities.

Contractor understands that, pursuant to Code of Virginia §22.1-296.1(C), making a materially false statement regarding offenses which are required to be included in the certification referenced above is a Class 1 misdemeanor and, upon conviction, the fact of such conviction shall be grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services. Spotsylvania County Public Schools shall not be liable for materially false statements regarding the certifications required under this Contract.

Contractor

Date

By: _____

Title: _____

**STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE**

THIS AGREEMENT is by and between The School Board of the County of Spotsylvania (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

The project is generally described as replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. Light fixtures shall be installed in existing ceiling grid and ceiling systems. Minor adjustment shall be allowed to the places for light fixtures to coordinate with immovable objects such as fixed metal ducts and sprinkler heads. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents. BID No. 07252019-1400.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents shall be the whole is generally described as follows:

The project is generally described as replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. Light fixtures shall be installed in existing ceiling grid and ceiling systems. Minor adjustment shall be allowed to the places for light fixtures to coordinate with immovable objects such as fixed metal ducts and sprinkler heads. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents. BID No. 07252019-1400.

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by Ascent Engineering Group, Inc., who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents and below are of the essence of the Contract.

4.02 Dates for Substantial Completion and Final Payment

A. The Work associated with the project will be substantially completed on or before **August 21, 2021**, and will be fully completed with all systems fully operational, all punchlist work completed

and the work fully acceptable to the Owner and ready for final payment in accordance with paragraph 9.10.1 of the General Conditions on or before **September 14, 2021**.

4.03 *Liquidated Damages*

A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 8 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay OWNER \$1,000.00 for each day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER \$1,000.00 for each day that expires after the time specified in paragraph 4.02 for final completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 - CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraph 5.01.A below:

- A. For all Work or OWNER SELECTED WORK, at the prices stated in CONTRACTOR'S Bid, attached hereto as an exhibit.

_____ (_____)

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 9 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

6.02 Progress Payments; Retainage

A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment reviewed on or about the third Thursday of each month with payment following in the next month during performance of the Work as provided in paragraphs 6.02.A.1 and 6.02.A.2 below. All such payments will be measured by the schedule of values established in paragraph 9.2.1 of the General Conditions or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER may determine or OWNER may withhold (for unsettled claims, liquidated damages, extended administration fees or other costs relating to items in paragraph 9.5.1 of the General Conditions), in accordance with paragraph 9.5 of the General Conditions:
 - a. 95% of Work completed (with the balance being retainage); and
 - b. 0% of cost of materials and equipment not incorporated in the Work and stored off site.

2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 95% of the Work completed, less such amounts as ENGINEER or OWNER shall determine in accordance with paragraph 9.5.1 of the General Conditions, or for unsettled claims, liquidated damages pursuant to above paragraph 4.03, or other grounds under the Contract Documents for which Owner is entitled to withhold payment, and less 100% of ENGINEER's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 Final Payment

A. Upon final completion and acceptance of the Work in accordance with paragraphs of 9.10 of the General Conditions, including the Contractor's having corrected all work that was nonconforming as provided by Section 12.2 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraphs of 9.10, unless Owner has grounds under the Contract Documents to withhold payments.

ARTICLE 7 - INTEREST

7.01 All moneys not paid when due as provided in Article 9 of the General Conditions shall bear interest at the rate of 6% per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

E. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

F. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

G. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

H. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

8.02 Costs and Attorney's Fees: Contractor agrees to pay Owner reasonable attorney's fees and costs incurred due to Contractor's breach of any of the terms of the Contract Documents.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
1. This Agreement (pages 1 to 6, inclusive);
 2. Performance Bond (pages 1 to 2, inclusive);
 3. Payment Bond (pages 1 to 2 inclusive);
 4. Spotsylvania County School Board General Conditions of the Contract for Construction, revised 01/06/12 ("General Conditions") (pages 1 to 72, inclusive);
 5. Supplementary General Conditions (pages 1 to 4, inclusive);
 6. Special Conditions (pages 1 to 4, inclusive);
 7. Specifications as listed in the table of contents of the Project Manual;
 8. Drawings consisting of a cover sheet and sheets as listed in the Drawing Index.
 9. Exhibits to this Agreement (enumerated as follows):
 - a. Notice to Proceed
 - b. CONTRACTOR's Bid
 - c. Documentation submitted by CONTRACTOR prior to Notice of Award and the Bid package.
 10. Invitation to Bid (including all requirements and terms set forth therein);
 11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Written Amendments
 - b. Work Change Directives
 - c. Change Order(s).
- B. The documents listed in paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above), or incorporated herein by reference.
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 1.1.2 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.01 Terms

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

10.02 Assignment of Contract

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

- A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Other Provisions

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on August ____, 2019 (which is the Effective Date of the Agreement).

OWNER: SPOTSYLVANIA COUNTY SCHOOLS CONTRACTOR: _____.

By: _____ By: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____ Attest _____

Address for giving notices:

Address for giving notices:

The School Board of the County of Spotsylvania

_____.

8020 River Stone Drive

_____.

Fredericksburg, VA 22407

_____.

(If OWNER is a corporation , attach evidence of authority to sign. If OWNER is a public body, _____ attach evidence of authority to sign and resolution or other documents authorizing execution of OWNER-CONTRACTOR Agreement.)

License No _____.

(Where applicable)

Agent for service of process: _____

(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

Designated Representative:

Designated Representative:

Name: _____

Name: _____.

Title: _____

Title: _____.

Address: _____

Address: _____.

_____.

Phone: _____

Phone: _____.

Facsimile: _____

Facsimile: _____.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

BID BOND

BIDDER (_____):

SURETY (_____):

OWNER (_____):

Spotsylvania County School Board
8020 River Stone Drive
Fredericksburg, VA. 22407

BID

BID DUE DATE: July 25, 2019, 2:00 P.M. Eastern Standard Time at the Spotsylvania County School Administration Building

PROJECT:

The project is generally described as replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. Light fixtures shall be installed in existing ceiling grid and ceiling systems. Minor adjustment shall be allowed to the places for light fixtures to coordinate with immovable objects such as fixed metal ducts and sprinkler heads. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents. BID No. 07252019-1400.

BOND

BOND NUMBER: _____

DATE (Not later than Bid due date): _____

PENAL SUM: _____

(Words)

(Figures)

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)

(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature and Title

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

Attest: _____
Signature and Title

Note: (1) Above addresses are to be used for giving required notice.
(2) Any singular reference to Bidder, Surety, OWNER or other party shall be considered plural where applicable.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1. OWNER accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents, or

3.2. All Bids are rejected by OWNER, or

3.3. OWNER fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by OWNER and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power or Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer or proposal as applicable.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):
Place

SURETY (Name and Address of Principal
of Business):

OWNER (Name and Address):
Spotsylvania County School Board
8020 River Stone Drive
Fredericksburg, VA. 22407

CONTRACT

Date: _____
Amount: _____

The project is generally described as replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. Light fixtures shall be installed in existing ceiling grid and ceiling systems. Minor adjustment shall be allowed to the places for light fixtures to coordinate with immovable objects such as fixed metal ducts and sprinkler heads. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents. BID No. 07252019-1400.

BOND

Date (Not earlier than Contract Date): _____
Amount: _____

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL
Company: _____ (Corp. Seal)
Seal)

SURETY
Company: _____ (Corp.

Signature: _____
Name and Title:

Signature: _____
Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL
Company: _____ (Corp. Seal)
Seal)

SURETY
Company: _____ (Corp.

Signature: _____
Name and Title:

Signature: _____
Name and Title:

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, which is incorporated herein by reference.
 2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
 3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:
 - 3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and
 - 3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and
 - 3.3. The OWNER has agreed to pay the Balance of the Contract Price to:
 - 3.3.1. The Surety in accordance with the terms of the Contract;
 - 3.3.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
 4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;
 - 4.4.1 After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or
 - 4.4.2 Deny liability in whole or in part and notify the OWNER citing reasons therefor.
 5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied
- liability, in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.
6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:
 - 6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.
 7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.
 8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.
 9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
 10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.
 11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
 12. Definitions.
 - 12.1 Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.
 - 12.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

PAYMENT BOND

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place
of Business):

OWNER (Name and Address):

Spotsylvania County School Board
8020 River Stone Drive
Fredericksburg, VA. 22407

CONTRACT

Date: _____
Amount: _____

Description - The project is generally described as replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. Light fixtures shall be installed in existing ceiling grid and ceiling systems. Minor adjustment shall be allowed to the places for light fixtures to coordinate with immovable objects such as fixed metal ducts and sprinkler heads. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents. BID No. 07252019-1400.

Date (Not earlier than Contract Date): _____
Amount: _____
Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)
Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp.

Signature: _____
Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)
Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp.

Signature: _____
Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

PAYMENT BOND

00 62 00 - 1

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default.

3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with the CONTRACTOR:

1. Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

2. Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.

5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER's priority to use the funds for the completion of the Work.

9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
LIVINGSTON E.S., RIVERVIEW E.S.,
THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

- 15.1. Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.
- 15.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
- 15.3. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

SPOTSYLVANIA INTERIOR LIGHTING
REPLACEMENT FOR BERKELEY E.S.,
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THORNBURG M.S., & SPOTSYLVANIA H.S.
SPOTSYLVANIA COUNTY, VIRGINIA

APPLICATION FOR PAYMENT

INSTRUCTIONS

A. GENERAL INFORMATION

The sample form of Schedule of Values is intended as a guide only. Many projects require a more extensive form with space for numerous items, descriptions of Change Orders, identification of variable quantity adjustments, summary of materials and equipment stored at the site and other information. It is expected that a separate form will be developed by Engineer and Contractor at the time Contractor's Schedule of Values is finalized. Note also that the format for retainage must be changed if the Contract permits (or the law provides), and Contractor elects to deposit securities in lieu of retainage. Refer to Article 9 of the General Conditions for provisions concerning payments to Contractor.

B. COMPLETING THE FORM

The Schedule of Values, submitted and approved as provided in paragraphs 9.2 and 9.2.1 of the General Conditions, should be reproduced as appropriate in the space indicated on the Application for Payment form. Note that the cost of materials and equipment is often listed separately from the cost of installation. Also, note that each Unit Price is deemed to include Contractor's overhead and profit.

All Change Orders affecting the Contract Price should be identified and included in the Schedule of Values as required for progress payments.

The form is suitable for use in the Final Application for Payment as well as for Progress Payments; however, the required accompanying documentation is usually more extensive for final payment. All accompanying documentation should be identified in the space provided on the form.

C. LEGAL REVIEW

All accompanying documentation of a legal nature, such as Lien waivers, should be reviewed by an attorney, and Engineer should so advise Owner.

Application No. _____ Date _____

ITEM	UNIT PRICE	ESTIMATED QUANTITY	SCHEDULE OF VALUES AMOUNT	QUANTITY COMPLETED	AMOUNT	%	MATERIAL STORED	AMOUNT COMPLETED AND STORED
1.	\$		\$		\$		\$	\$
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.								
21.								
22.								
23.								
24.								
25.								
26.								
27.								
28.								
29.								
30.								
TOTAL			\$		\$		\$	\$

Note: Total Schedule of Values Amount should equal the current Contract Price

**SPOTSYLVANIA COUNTY
SCHOOL BOARD**

GENERAL CONDITIONS
OF THE
CONTRACT
FOR
CONSTRUCTION

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GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, addenda issued prior to execution of the Contract, all sections of the Project Manual, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically deleted in the Agreement, the Contract Documents shall include other documents such as bidding requirements (advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid and portions of addenda relating to bidding requirements). In the event of a conflict, terms and conditions contained in the Agreement between Owner and Contractor shall take precedence over the terms and conditions contained in these General Conditions, and the terms and conditions in the General Conditions shall take precedence over all other terms and conditions contained in the other Contract Documents. If the Request for Proposals and the Proposal are included in the Contract Documents, then the Request for Proposals shall take precedence over the Proposal, unless specifically agreed otherwise herein.

1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a written Modification. Except as provided in Paragraph 3.18, nothing contained in the Contract Documents shall be construed to create any contractual relationship (1) between the Architect and the Contractor, (2) between the Owner or the Architect and a Subcontractor or Sub-subcontractor, (3) between the Owner and the Architect, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

1.1.5 THE DRAWINGS

The Drawings are the graphic, diagrammatic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

1.1.7 THE PROJECT MANUAL

The Project Manual is the volume usually assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

1.1.8 ADDENDA

Addenda record modifications to the drawings and/or Project Manual made prior to the signing of Agreement for the construction of the Project by the Owner and the Contractor.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 The Contract Documents shall be signed by the Owner and Contractor as provided in the Agreement. If either the Owner or Contractor or both do not sign all the Contract Documents, the Architect shall identify such unsigned Documents upon request. A copy of

the signed set shall be deposited with the Architect.

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

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by 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. Any item of work not specifically mentioned but by custom and usage normally included in order to properly complete the intent of the Contract Documents is to be considered as so included. All work mentioned or indicated in the Contract Documents shall be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be done by others. Should the Drawings, Specifications, applicable Federal, State or local Codes, or manufacturer's instructions disagree in themselves or with each other, the Contractor shall provide the better quality or greater quantity of Work unless otherwise directed by written addendum to the Contract.

1.2.4 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. The Contractor and all Subcontractors shall refer to all of the Drawings, including those showing primarily the Work of the mechanical, electrical and other specialized trades, and to all of the Sections of the Specifications, and shall perform all Work reasonably inferable therefrom as being necessary to produce the indicated results.

1.2.5 Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings, as interpreted by the Architect.

1.2.6 Where codes, standards, requirements and publications of public and private bodies are referred to in the Specifications, references shall be understood to be the latest revision prior to the date of receiving bids, except where otherwise indicated.

1.2.7 All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions unless otherwise indicated in the Contract Documents.

1.2.8 Test boring or soil test information included with the Contract Documents or

otherwise made available to the Contractor was obtained by the Owner for use by the Architect in the design of the Project or Work. Neither the Owner nor the Architect represent such information to the Contractor as an accurate or approximate indication of subsurface conditions, and no claim for extra cost or extension of time resulting from a reliance by the Contractor on such information shall be allowed.

1.2.9 Where the Work is to fit with existing conditions or work to be performed by others, the Contractor shall fully and completely join the Work with such conditions or work, unless otherwise specified.

1.2.10 The mechanical and electrical Drawings, except for electrical outlets which are to be located by scale dimensions, are diagrammatic, intending to show general locations and arrangements of piping, wiring, equipment and specialties, and does not necessarily show all required offsets, conditions and appurtenances. All Work shall be accurately laid out and coordinated by the Contractor in cooperation with the trades to avoid conflicts and to obtain a neat and workmanlike installation that will afford maximum practical accessibility for operation, maintenance and headroom. All equipment shall, insofar as possible, be installed in such a manner as will not interfere with architectural or structural portions of the buildings.

1.2.11 No Drawings are intended to be rigid in specific details where such details may be in conflict with recommendations of the manufacturer of the equipment actually provided. The Work under the division includes making such modifications in the designs indicated as may be required to cause all Work to conform to such recommendations.

1.2.12 The Contractor shall provide equipment and materials indicated herein complete with all features normally provided with such items, although all features of design and construction may not be indicated in complete detail. Such features shall be subject to the approval of Architect and shall include all standard accessories and appurtenances normally provided or which are required for safe operation.

1.3 OWNERSHIP AND USE OF ARCHITECT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

1.3.1 The Drawings, Specifications and other documents prepared by the Architect are instruments of the Architect's service through which the Work to be executed by the Contractor is described. The Contractor may retain one contract record set. Neither the Contractor nor any Subcontractor, Sub-subcontractor or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications and other documents prepared by the Architect, and unless otherwise indicated the Architect shall be deemed the author of them and will retain all common law, statutory and other reserved rights, in addition to the copyright. All copies of them, except the Contractor's record set, shall be returned or suitably accounted for to the Architect, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Architect, and

copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner and Architect. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this license shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Architect. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's copyright or other reserved rights.

1.4 CAPITALIZATION

1.4.1 Terms capitalized in these General Conditions include those which are (1) specifically defined, (2) the titles of numbered articles and identified references to Paragraphs, Subparagraphs and Clauses in the document or (3) the titles of documents published by the American Institute of Architects.

1.5 INTERPRETATION

1.5.1 In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.5.2 Most divisions of the Specifications have been written in the so-called "abbreviated" style of which such phrases as "the Contractor shall", or "shall be", etc., have been omitted, and similarly so with the notes on the Drawings. Where the sense of the sentence or statement implies the inclusion of the above phrase, it shall be construed to be so included.

ARTICLE 2

OWNER

2.1 DEFINITION

2.1.1 The Owner is the School Board of the County of Spotsylvania, and is referred to throughout the Contract Documents as if singular in number. The term "Owner" means the Owner or the Owner's authorized representative. The School Board of the County of Spotsylvania, by majority vote, is the only representative of the Owner, an independent

school district, having the power to enter into or amend a contract, to approve changes in the scope of Work, to approve and execute a Change Order or Construction Change Directive modifying the Contract Sum, or agree to an extension to the date of Substantial or Final Completion. The Board will act as soon as reasonably possible to avoid undue delays. The Board designates authorized representatives to act on its behalf for day-to-day operations under the Contract.

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.1 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. Any existing utilities shown on the drawings have been located utilizing the best information available at the time. The Contractor shall field verify exact locations and/or depths prior to beginning any construction, and shall perform any Work in such a manner so as to avoid damaging any such utilities. Any damage to any utilities shall be repaired or replaced to the utility company's satisfaction by the Contractor at no additional cost to the Owner. All repairs shall be made immediately to restore all service.

2.2.2 Except for permits and fees which are the responsibility of the Contractor under the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

2.2.3 Information or services required of the Owner hereunder shall be furnished by the Owner with reasonable promptness after receipt from the Contractor of a written request for such information or services.

2.2.4 The Contractor will be furnished, for construction purposes, free of charge, a maximum of thirty (30) sets of Drawings and Project Manuals, including any and all addenda. Additional complete or partial sets may be purchased by the Contractor at cost of reproduction, postage and handling.

2.2.5 The bench mark will be furnished to the Contractor for vertical elevation control. All other lines, levels and supplemental bench marks are to be established and maintained by the Contractor.

2.2.6 The foregoing are in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Article 6 (Construction by Owner or by Separate Contractors), Article 9 (Payments and Completion) and Article 11 (Insurance and Bonds).

2.2.7 The Contractor stipulates and agrees that the Owner has no duty to discover any design errors or omission in the Drawings, Plans, Specifications and other Construction Documents, and has no duty to notify Contractor of same. By entering into the Contract

Documents or any Agreement with any Architect, Owner does not warrant the adequacy and accuracy of any Drawings, Plans, Specifications or other Contract Documents.

2.3 OWNER'S RIGHT TO STOP THE WORK

2.3.1 If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 12.2, or persistently fails to carry out Work in accordance with the Contract Documents, or fails to carry out Work, or any portion thereof, in a safe manner as prescribed by the Occupational Safety and Health Administration or the Virginia Department of Labor and Industry, the Owner, by written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Subparagraph 6.1.3. Any work stoppage under this subparagraph shall not give rise to any claim by the Contractor for an extension of time or for money damages.

2.3.2 Failure of the Owner to notify the Contractor of necessary corrections or to stop the Work shall not relieve the Contractor of any responsibilities or obligations of the Contract Documents.

2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the Owner or the Architect to begin and prosecute correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Construction Change Directive or other written notice shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Architect's and other consultants' additional services and expenses made necessary by such default, neglect or failure, including attorney's fees and costs associated with any necessary re-bidding of any portion of the Work. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3

CONTRACTOR

3.1 DEFINITION

3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative.

3.1.2 The Contractor represents and warrants the following to the Owner (in addition to the other representations and warranties contained in the Contract Documents), as an inducement to the Owner to execute this Contract, which representations and warranties shall survive the execution and delivery of the Contract and the Final Completion of the Work:

- .1 that it is financially solvent, able to pay its debts as they mature, and possessed of sufficient working capital to complete the Work and perform its obligations under the Contract Documents;
- .2 that it is able to furnish the tools, materials, supplies, equipment and labor required to timely complete the Work and perform its obligations hereunder and has sufficient experience and competence to do so;
- .3 that it is authorized to transact business in the Commonwealth as required by Virginia law, that it shall not allow its existence to lapse or its certificate of authority or registration to transact business in Virginia to be revoked or cancelled during the term of this Contract, and that it is properly licensed by all necessary governmental, public and quasi-public authorities having jurisdiction over it, the Work, or the site of the Project; and
- .4 that the execution of the Contract and its performance thereof are within its duly authorized powers.

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

3.2.1 Before starting the Work, and at frequent intervals during the progress thereof, the Contractor shall carefully study and compare the Contract Documents with each other and with the information furnished by the Owner pursuant to subparagraph 2.2.1 and shall at once report to the Architect and Owner any error, inconsistency or omission the Contractor may discover. Any necessary change shall be ordered as provided in Article 7, subject to the requirements of Paragraph 1.2 and other provisions of the Contract Documents. If the Contractor proceeds with the Work without such notice to the Architect and Owner having

discovered such errors, inconsistencies or omissions or if by reasonable study of the Contract Documents the Contractor could have discovered such, the Contractor shall bear all costs arising therefrom.

3.2.2 The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported promptly to the Owner and Architect.

3.2.3 The Contractor shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Paragraph 3.12.

3.2.4 The Contractor represents and warrants by submission of a Proposal that he has carefully examined the Contract Documents, any soil test reports, drainage studies, geotechnical or other reports and the site of the Work, and that, from his own investigations and testing, he has satisfied himself as to the nature and location of the Work, the character, quality and quantity of surface and subsurface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the Work, the general and local conditions and all other materials which may in any way affect the Work or its performance. Should the Contractor find discrepancies, omissions or conflicts with the Contract Documents, or be in doubt as to their meaning, the Contractor shall at once notify in writing the Architect and Owner, and Architect will issue a written addendum to all parties that is consistent with the Owner's Scope of the Work. The Contractor shall not be entitled to any additional time or compensation for Contractor's failure to visit the site, failure to perform testing at the site, or for any additional Work caused by Contractor's fault, by improper construction, or by Contractor's failure to carefully study and compare the Contract Documents prior to execution of the Work.

3.2.5 If the Contractor has knowledge that any of the products or systems specified will perform in a manner that will limit the Contractor's ability to satisfactorily perform the Work or to honor his warranty, or will result in a limitation of or interference with the Owner's intended use, then the Contractor shall promptly notify the Architect and Owner in writing, providing substantiation for his position. Any necessary changes, including substitution of materials, shall be accomplished by appropriate Modification.

3.2.6 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for the Architect to evaluate and respond to the Contractor's requests for information, where such information was available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, Owner-provided information, construction drawings or prior Project correspondence or documentation. If, in the reasonable opinion of the Architect, the Contractor does not make reasonable effort to comply with any of the above requirements of the Contract Documents and this causes the Architect or his Consultants to expend an unreasonable amount of time in the discharge of

the duties imposed by the Contract Documents, then the Contractor shall bear the cost of compensation for the Architect's additional services made necessary by such failure.

3.2.7 The Contractor shall arrange meetings prior to commencement of the Work of all major Subcontractors to allow the Subcontractors to demonstrate an understanding of the Construction and Contract Documents to the Architect and to allow the Subcontractors to ask for interpretations, when necessary. The Contractor and each Subcontractor shall evaluate and satisfy themselves as to the conditions and limitations under which the Work is to be performed, including:

- .1 The location, condition, layout, drainage and nature of the Project site and surrounding areas;
- .2 Generally prevailing climatic conditions;
- .3 Anticipated labor supply and costs;
- .4 Availability and cost of materials, tools and equipment; and
- .5 Other similar issues.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract unless Contract Documents give other specific instructions concerning these matters.

3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor. As part of that responsibility, Contractor shall enforce the Owner's alcohol-free, drug-free, harassment-free and weapon-free policies and zones, which will require compliance with those policies and zones by Contractor's employees, subcontractors, and all other persons carrying out the Contract. Contractor shall require all construction workers, whether Contractor's own forces or forces of Contractor's subcontractors, while on Owner's property, to refrain from committing any criminal conduct, possessing or drinking alcoholic beverages, possessing or using illegal drugs or any controlled substances, carrying weapons, speaking profane and/or offensive language, or engaging in any inappropriate interactions of any nature whatsoever with students and employees, including talking, touching, staring or otherwise contributing to a hostile or offensive environment for Owner's students and employees. All areas of campus, other than the defined construction areas, shall be off limits to Contractor's forces, unless the work assignment specifies otherwise.

Failure of an individual to adhere to these standards of conduct shall result in the immediate removal of the offending employee from all construction on any of Owner's property. Repeated removal of Contractor's or Contractor's subcontractor's forces, or one serious infraction, shall constitute a substantial breach of the Agreement justifying the immediate termination by Owner pursuant to Article 14.

3.3.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.3.4 The Contractor shall be responsible for inspection of portions of Work already performed under this Contract to determine that such portions are in proper condition to receive subsequent Work. The Contractor shall properly and efficiently coordinate the timing, scheduling and routing of all Work performed by all trades and subcontractors.

3.3.5 It is understood and agreed that the relationship of Contractor to Owner shall be that of an independent contractor. Nothing contained in this Agreement or inferable therefrom shall be deemed or construed to (1) make Contractor the agent, servant or employee of the Owner; or (2) create any partnership, joint venture or other association between Owner and Contractor. Any direction and instruction by Owner or any of its authorized representatives with respect to the Work shall relate to the results the Owner desires to obtain from the Work, and shall in no way affect Contractor's independent contractor status.

3.4 LABOR AND MATERIALS

3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for qualified, careful and efficient workers and labor eligible to work in accordance with state and federal law. In addition, unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The word "provide" shall mean furnish and install complete, including connections, unless otherwise specified. Before ordering any material or doing any Work, Contractor shall verify all dimensions and check all conditions in order to assure Contractor that they are the same as those in the Drawings, Specifications and other Contract Documents. Any inconsistency shall be brought to the attention of the Architect. In the event that discrepancies occur between ordered materials and actual conditions and Architect was not notified beforehand, then costs to correct such discrepancies, including purchasing new materials, shall be borne by Contractor.

3.4.2 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

3.4.3 In executing the Work under the Contract Documents, Contractor shall comply with all applicable state and federal laws, including but not limited to laws concerned with labor, safety and minimum wages.

3.5 WARRANTY

3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor further warrants that it shall perform the Work in a good and workmanlike manner, continuously and diligently in accordance with generally accepted standards of construction practice for construction of projects similar to the Project, except to the extent the Contract Documents expressly specify a higher degree of finish or workmanship, in which case the standard shall be the higher standard. All material shall be installed in a true and straight alignment, level and plumb; patterns shall be uniform; and jointing of materials shall be flush and level, unless otherwise directed in writing by the Architect.

3.5.1.1 The warranty period for any system or systems on which required tests have not been successfully performed as of the Date of Substantial Completion for the Work, due to seasonal limitations, shall begin after the required tests have been successfully performed.

3.5.1.2 Notwithstanding anything in the Contract Documents to the contrary, Owner and Contractor expressly agree that the warranties stated herein shall mean the individual warranties associated with each particular Work within the Project, and each such individual warranty shall run from the applicable Work's Final Completion date (unless otherwise expressly provided in the applicable Contract Documents for that particular Work). Contractor's express warranty is in addition to, and not in lieu of, Owner's other available remedies. All required warranties on equipment, machinery, materials or components shall be submitted to the Architect on the manufacturer's or supplier's approved forms for delivery to the Owner. The warranties set out in Section 3.5 are not exclusive of any other warranties or guarantees set out in other places in the Contract Documents or expressed or implied under applicable law.

3.5.2 In all cases in which a manufacturer's name, trade name or other proprietary designation is used in connection with materials or articles to be furnished under this Contract, whether or not the phrase "or equal" is used after such name, the Contractor shall furnish the product of the named manufacturer(s) without substitution, unless a

written request for a substitute has been submitted by the Contractor and approved in writing by the Architect.

3.5.3 If the contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the Contractor shall inform the Architect, in writing, of the nature of such deviations at the time the material is submitted for approval, and shall request written approval of the deviation from the requirements of the Contract Documents.

3.5.4 In requesting approval of deviations or substitutions, the Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that otherwise attainable. If, in the opinion of the Architect, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation without further investigation. Any delay created by the Contractor's requesting approval of deviations or substitutions or of Contractor's submissions relating thereto shall be the responsibility of the Contractor and shall not constitute grounds for any claim for extensions of time or for money damages.

3.5.5 In proposing any substitution, the Contractor represents that its bid and Contract amounts are based upon specified and indicated equipment and materials. Any modification to the Work necessitated by approval of a substitution shall be made by the Contractor at no additional cost to the Owner.

3.5.6 Whether or not the Owner or Architect accepts any proposed substitution, the Contractor shall reimburse the Owner for any fees charged by the Architect or other consultants for evaluating any proposed substitution.

3.5.7 The Contractor agrees to assign to the Owner at Final Completion of the Work, such assignment to be effective no later than Final Completion, any and all manufacturers' warranties relating to materials and labor used in the Work. Contractor further agrees to perform the Work in such manner so as to preserve any and all such manufacturers' warranties. All forms will be required to be submitted prior to Final Payment.

3.5.8 Prior to receipt of Final Payment, Contractor shall obtain all original warranties applicable to the Project, fully and properly executed by Contractor and/or subcontractor, and deliver them to Architect.

3.5.9 In the event of failure of materials, products or workmanship, either during construction or the warranty period, the Contractor shall take appropriate measures to ensure correction of defective Work or replacement of defective items, without cost to the Owner. Such warranty shall be maintained notwithstanding that certain systems may be activated prior to Substantial Completion as required for the satisfactory completion of the Project. Upon written notice from the Owner or Architect, the Contract shall promptly

remedy defects as covered by Contractor's warranty. If Contractor does not respond to the written notice, either by beginning corrective work or notifying Owner in writing regarding when corrective work will begin, within ten days of Contractor's receipt of the written notice, then the Owner may take measures to correct the Work and Contractors will be obligated to reimburse Owner's costs, including attorney's fees. The provisions of this subparagraph shall be in addition to, and not in lieu of, any other rights and remedies available to the Owner.

3.6 TAXES

3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

3.6.2 The Contractor shall pay all County, City, State and Federal taxes required by law enacted at the time bids are received and resulting from the Work or traceable thereto, under whatever name levied. Said taxes shall not be in addition to the Contract Sum between Owner and Contractor, as the taxes shall be an obligation of the Contractor and not of the Owner, and the Owner shall be held harmless for same by the Contractor.

3.7 PERMITS, FEES AND NOTICES

3.7.1 As required by federal, state and local codes, laws, or ordinances including business license laws the Contractor shall secure and pay all costs for ALL required building and other permits (for all trades), governmental fees, licenses, and inspection fees necessary and legally required at the time bids were received or negotiations concluded, which are customarily secured after execution of the Contract. Each contractor, prior to submitting a bid shall be responsible for contacting the local governing agencies for permits and fees cost information, and include all costs in the Contractor's bid. No work shall begin until all permits have been obtained and all costs and fees have been paid on the part of the Contractor and all Subcontractors.

3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the Work.

3.7.3 It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, building codes, and rules and regulations. However, if the Contractor observes that portions of the Contract Documents are at variance therewith, the Contractor shall promptly notify the Architect and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

3.7.4 If the Contractor performs Work knowing it to be contrary to laws, statutes,

ordinances, building codes, and rules and regulations without such notice to the Architect and Owner, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs.

3.7.5 Prior to obtaining the Occupancy Permit, the Contractor will be required to submit a signed statement to the County Building Official:

Certifying that to the best of its knowledge all construction materials and workmanship for the Work are in compliance with the Contract Documents and meet or exceed all governing codes.

3.7.6 The Contractor shall pay directly all temporary utility charges, tap charges and water meter charges without reimbursement from Owner.

3.7.7 The Contractor shall be responsible for timely notification to and coordination with all utility companies regarding the provision of services to the Project.

3.8 ALLOWANCES

3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities against which the Contractor makes reasonable objection.

3.8.2 Unless otherwise provided in the Contract Documents:

- .1 materials and equipment under an allowance shall be selected promptly by the Owner to avoid delay in the Work;
- .2 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site, less applicable trade discounts;
- .3 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum and not in the allowances unless otherwise stated in the Contract Documents;
- .4 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Clause 3.8.2.2 and (2) changes in Contractor's costs under Clause 3.8.2.3.

3.8.3 When performing Work under allowances, Contractor shall solicit and receive not less than three written proposals and shall provide the Work as directed by the Architect, upon Owner's written approval, on the basis of the best value to the District.

3.9 SUPERINTENDENCE

3.9.1 The Contractor shall employ a qualified, competent full time superintendent and necessary assistants who shall be in attendance daily at the Project site at all times during the progress of the Work until Final Completion. The superintendent shall not be responsible for performing any of the physical Work, but shall be responsible for managing others in the performance of that Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communication shall be so confirmed on written request in each case. The superintendent shall be satisfactory to the Owner and shall not be changed without written consent of the Owner. Should the Contractor's superintendent become unsatisfactory to the Owner and the Owner notify the Contractor in writing of his objection and request removal of said superintendent, the Contractor shall remove said superintendent immediately and provide suitable replacement. Any personnel of the Contractor who are rejected by the Owner in writing shall not be returned to the project site without prior written approval of the Owner.

3.9.2 The Contractor shall provide supervisory personnel (minimum of one) at the project site at all times, who speak fluent English and the language(s) of the workers. Contractor shall provide an adequate staff for the proper coordination and expedition of the Work at all times. Owner shall have the right to require Contractor to dismiss from the Work any employee or employees that Owner may deem incompetent, careless, insubordinate, or in violation of any provisions in these Contract Documents. This provision is applicable to subcontractors, sub-subcontractors and their employees.

3.9.3 The Superintendent employed by the Contractor shall have a minimum of five (5) years commercial experience as the primary Superintendent on projects of similar size and complexity as the Work. The Contractor shall submit to the Owner and Architect a resume and other supporting documentation showing that the proposed Superintendent is competent and has the minimum work experience required to execute the Work. The Owner reserves the right to request additional supporting documentation regarding the proposed Superintendent's qualifications and to require the Contractor to propose an alternate Superintendent who better meets the requirements contained in this Article, as may reasonably be determined by the Owner.

3.9.4 The Contractor shall employ a Project Manager to be assigned to the Work. The Project Manager employed by the Contractor shall have a minimum of five (5) years commercial experience as Project Manager on projects of similar size and complexity as the Work. The Contractor shall submit to the Owner and Architect a resume and other supporting documentation showing that the proposed Project Manager is competent and

has the minimum work experience required to execute the Work. The Owner reserves the right to request additional supporting documentation regarding the proposed Project Manager's qualifications and to require the Contractor to propose an alternate Project Manager who better meets the requirements contained in this Article, as may reasonably be determined by the Owner. The Contractor shall notify the Architect and Owner in writing of any proposed replacement of the Project Manager. The Contractor shall not replace a competent Project Manager without prior written approval from the Owner. The requirements contained in this Article shall apply to any proposed replacement Project Manager, whether the proposed tenure is to be temporary or permanent. The Project Manager shall not act as the Superintendent or as a replacement for the Superintendent without written approval from the Owner.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner and Architect's approval a Contractor's critical path construction schedule for the Work. The schedule shall conform to and shall not exceed time limits required under the Contract Documents, shall be revised at appropriate intervals as required by the Contract Documents, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

3.10.2 The Contractor shall prepare and keep current, for the Owner's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Architect reasonable time to review submittals.

3.10.3 The Contractor shall conform to the most recent schedules.

3.10.4 The Contractor shall hold weekly progress meetings at the Project Site, or at such other time and frequency as are acceptable to the Owner. Progress of the work shall be reported at said meetings with reference to Contractor's construction schedule. The Contractor shall submit to the Architect with each application for payment a copy of the progress schedule showing all modifications required, and shall take whatever corrective action is necessary to assure that the project completion schedule is met at no additional cost to Owner, except as herein allowed. In the event that Contractor shall fall behind schedule at any time, Contractor shall develop and deliver a recovery schedule and a program describing the additional manpower, overtime, material expediting, resequencing or the Work and other steps Contractor shall take to meet the requirement of the Contract. Contractor shall not be entitled to compensation from the Owner or any increase in the Contract Sum for the recovery schedule efforts. No approval or consent by the Owner of any plan for resequencing or acceleration of the Work submitted by Contractor shall constitute a waiver by Owner of any damages, including liquidated damages, or losses which Owner may suffer by reason of such resequencing or the failure of Contractor to meet the Substantial Completion Date or the Final Completion Date.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

3.11.1 The Contractor shall maintain at the site for the Owner one record copy of the Drawings, Specifications, addenda, Change Orders and other Modifications, in good order and marked currently to record changes and selections made during construction, and in addition approved Shop Drawings, field test records, inspection certificates and records, manufacturers' certificates, Product Data, Samples and similar required submittals. These shall be available to the Architect and the Owner at all times and shall be delivered to the Architect for submittal to the Owner upon completion of the Work, and before Application for Final Payment.

3.11.2 Prior to installation, Contractor shall furnish or cause a subcontractor to furnish, for the Owner's and Architect's written approval, a physical sample of each specified item, product, fixture or device which is visible by the general public and/or attached to an architecturally-finished surface. Samples shall be suitable labeled, adequately protected and properly stored at the site. Samples which are approved and undamaged will be considered to be suitable for incorporation into the Work.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work. The Contractor represents that all shop drawings shall be prepared by persons or entities possessing expertise and experience in the trade for which the shop drawings are prepared, and if required by the Architect or applicable law, by a licensed engineer.

3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

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

3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the Contract Documents. Review by the Architect is subject to the limitations of Subparagraph 4.2.7.

3.12.5 The Contractor shall review, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the

activities of the Owner or of separate contractors. Submittals made by the Contractor that are not required by the Contract Documents may be returned without action. At least seven copies of all such Drawings, Data or Samples shall be required.

3.12.6 The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the Architect has approved the respective submittal. Such Work shall be in accordance with approved submittals.

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

3.12.8 The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Owner and Architect in writing of such deviation at the time of submittal and the Owner and Architect have given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. Unless such written notice has been given, the Architect's approval of a resubmitted Shop Drawing, Product Data, Sample, or similar submittal shall not constitute approval of any changes not requested on the prior submittal.

3.12.10 Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents.

3.12.11 When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

3.12.12 The Contractor shall submit complete drawings, data and samples to the Architect at least fifteen (15) days prior to the date the Contractor needs the reviewed submittals and samples returned.

3.13 USE OF SITE

3.13.1 The right of possession of the premises and the improvements made thereon by the

Contractor shall remain at all times in the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents. The Contractor shall confine the Contractor's apparatus, the storage of materials and the operations of the Contractor's workmen to limits indicated by law, ordinances, the Contract Documents and permits and/or directions of the Architect or Owner and shall not unreasonably encumber the premises with the Contractor's materials. The Owner shall not be liable to the Contractor, the Subcontractors, their employees or anyone else with respect to the conditions of the premises, except only for a condition caused directly and solely by the negligence of the Owner.

3.13.2 Unless otherwise indicated, the property lines shall be the limits of construction and all Work shall be confined therein including the storage of materials and equipment at the site.

3.13.3 Only materials and equipment which 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.

3.13.4 The Contractor and its subcontractors shall not erect any sign on the Project sit without the prior written consent of the Owner.

3.13.5 Contractor shall ensure that the Work, at all times, is performed in a manner that affords the Owner reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed in such a manner that public areas adjacent to the Site of the Work shall be free from all debris, building materials and equipment likely to cause hazardous conditions. Without limitation of any other provision of the Construction Documents, Contractor shall use its best efforts to minimize any interference with the occupancy or beneficial use of any area or building adjacent to the site of the Work, or the building, in the event of partial occupancy.

3.14 CUTTING AND PATCHING

3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly, provided, however, that any such cutting, fitting or patching can only be performed if the cutting, fitting or patching results in Work that is in accordance with the Contract Documents.

3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be

unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

3.15 CLEANING UP

3.15.1 The Contractor, on a daily basis, shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract.

Contractor shall provide on-site containers for the collection of waste materials, debris and rubbish from the Work and dispose of all such materials at legal disposal areas away from the site. All cleaning operations shall be scheduled so as to ensure that contaminants resulting from the cleaning process will not fall on newly-coated or newly-painted surfaces.

Upon substantial completion of the work, all areas of the Project to be occupied by Owner shall be free of waste, materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. At completion of the Work the Contractor shall remove from and about the project all such items.

3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

3.15.3 The Contractor shall be responsible for the protection of the Work. Prior to the Architect's inspection of Substantial Completion, the Contractor shall clean exterior and interior surfaces exposed to view; remove temporary labels, stains, putty, soil, paint and foreign substances from all surfaces, including glass and painted surfaces; polish transparent and glossy surfaces; clean equipment and fixtures to a sanitary condition; replace air filters in mechanical equipment; clean roofs, gutters and downspouts; remove obstructions and flush debris from drainage systems; clean site; sweep paved areas and rake clean other surfaces; remove trash and surplus materials from the site; clean and polish all floors; clean and polish all hardware; and repair all Work damaged during cleaning.

3.15.4 After construction is complete, Contractor shall: (1) employ skilled workers for final cleaning; (2) remove grease, mastic adhesive, dust, dirt, stains, fingerprints, labels and other foreign materials from all sight-exposed interior and exterior surfaces; (3) wash and shine glazing and mirrors; (4) polish glossy surfaces to a clear shine; (5) vacuum clean carpeted and similar soft surfaces; (6) clean (damp mop with clean mop and water) resilient and hard surface floors, repeating as necessary until no visible residue remains on floors; (7) clean plumbing fixtures to a sanitary condition; (8) clean surfaces of all equipment and remove excess lubrication; (9) clean permanent filters and replace disposable filters in ventilating systems if units were operated during construction and clean ducts, blowers and coils; (10) clean light fixtures; (11) remove waste, foreign matter and debris from roofs, gutters, area ways and drainage ways; (12) remove waste, debris and surplus materials from the site; (13) remove stains, spills and foreign substances from paved areas; and (14) broom clean exterior concrete and paved surfaces and rake clean the grounds.

3.16 ACCESS TO WORK

3.16.1 The Contractor shall provide the Owner and Architect and their designated representatives access to the Work in preparation and progress wherever located. The presence of the Owner, Architect or their representatives does not constitute acceptance or approval of the Work.

3.17 ROYALTIES AND PATENTS

3.17.1 The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of patent rights, waive and release claims against the Owner and Architect, and shall indemnify and hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

3.18 INDEMNIFICATION AND COVENANT NOT TO SUE

3.18.1 To the fullest extent permitted by law, the Contractor shall waive and release claims against and shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, causes of action, suits, judgments and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (including the Work itself) including loss of use resulting there from, caused in whole or in part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph 3.18.

3.18.2 In claims against any person or entity indemnified under this Paragraph 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 3.18 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under insurance policies, workers' compensation acts, disability benefit acts or other employee benefit acts.

3.18.3 The obligations of the Contractor under this Paragraph 3.18 shall not extend to the liability of the Architect, the Architect's consultants, and agents and employees of any of them arising out of (1) defects in plans, designs, or specifications prepared, approved or used by Architect or Engineer; or (2) negligence of the Architect or Engineer in the rendition or conduct of professional duties called for or arising out of the Construction Contract and the plans, designs or specifications that are a part of the Construction Contract.

3.18.4 The provisions of Section 3.18 in their entirety shall survive the completion, termination or expiration of this Contract.

3.19 NON-DISCRIMINATION

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

- .1 The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, handicapped, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
- .2 The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an Equal Opportunity Employer.
- .3 Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- .4 The Contractor shall be held responsible for the inclusion of the above requirements in every subcontract and purchase order, which exceeds \$10,000. Such requirements shall be made binding upon such subcontractors and vendors.

3.20 DRUG-FREE WORKPLACE

During the performance of this Contract, the Contractor agrees as follows:

- .1 The Contractor will provide a drug-free workplace for all of its employees.
- .2 The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, a statement notifying

employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the workplace and specify the actions that will be taken against employees for violations of this prohibition.

- .3 The Contractor will state in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that such Contractor maintains a drug-free workplace.
- .4 The Contractor shall include the provisions of the foregoing paragraphs ".1", ".2" and ".3" of this section in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

3.21 ILLEGAL ALIENS

Contractor agrees that it does not, and shall not during the performance of this Contract, knowingly employ any unauthorized aliens as defined in the federal Immigration Reform and Control Act of 1986.

ARTICLE 4

ADMINISTRATION OF THE CONTRACT

4.1 ARCHITECT

4.1.1 The Architect is the person lawfully licensed to practice architecture or an entity lawfully practicing architecture identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

4.1.1.1 Such terms as 'Architect-Engineer,' 'Engineer,' and 'A-E' are used in these documents to identify the Architect and its consultants and/or representatives and shall have the force of the term 'Architect' in the documents.

4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner and Architect. Consent shall not be unreasonably withheld.

4.1.3 In case of termination of employment of the Architect, the Owner shall appoint an architect whose status under the Contract Documents shall be that of the former architect.

4.1.4 Except as expressly provided herein, the Contractor shall not be relieved of

Contractor's obligations to perform the Work in strict accordance with the Contract Documents by the duties, responsibilities or activities of the Architect.

4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents, (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, during the correction period described in Paragraph 12.2. The Architect will advise and consult with the Owner. The Architect will have authority to act on behalf of the Owner to the extent provided in the Contract Documents, unless otherwise modified by written instrument in accordance with other provisions of the Contract.

4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in accordance with the Contract Documents. On the basis of on-site observations as an architect, the Architect will keep the Owner informed of progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work.

4.2.3 The Architect will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility as provided in Paragraph 3.3. The Architect will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work. The Contractor shall reimburse the Owner for compensation paid to the Architect for additional site visits made necessary by the fault, neglect or request of the Contractor.

4.2.4 Communications Facilitating Contract Administration. The Contractor shall communicate with the Owner through the Architect and the Owner's Construction Program Manager regarding such matters as the parties from time to time deem appropriate. However, Owner reserves the right to communicate directly with the Contractor. It is the intent of this provision that at all times both the Architect and the Owner shall be fully informed as to the progress of the Work, and the Architect, Construction Program Manager, and the Owner shall be kept fully advised of all communications. Nothing herein shall diminish the Architect's responsibility and authority to make judgments and decisions called for herein. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

4.2.5 Based on the Architect's observations and evaluations of the Contractor's

Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

4.2.6 The Architect shall have authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable for implementation of the intent of the Contract Documents, the Architect shall have authority to require additional inspection or testing of the Work in accordance with Subparagraphs 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Owner to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.

4.2.7 The Architect to the extent it deems necessary will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, for the purpose of checking for conformance with information given and the design concept expressed in the Contract Documents and all applicable laws, statutes, codes and requirements applicable to Architect's design services. The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under the Contract Documents. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. If any submittal does not comply with the requirements of the Contract Documents, then Architect shall require Contractor to come into compliance. The Architect shall promptly report in writing to the Contractor and Owner any errors, inconsistencies and omissions discovery by the Architect in the Shop Drawings, Product Data and Samples.

4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Paragraph 7.4. A properly prepared request for a change in the Work by the Contractor shall be accompanied by sufficient supporting data and information to permit the Architect to make a reasonable determination without extensive investigation or preparation of additional drawings or specifications. The Architect is not authorized to approve changes involving major systems such as: Heating, Ventilation and Air Conditioning; roof; foundation; outward appearance; color schemes; floor plans; building materials; draining or mechanical equipment without Owner's prior written consent.

4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of Final Completion, will receive and forward to the Owner for the Owner's review and records written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

4.2.11 The Architect will interpret and make recommendations concerning performance under and requirements of the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made with reasonable promptness and within any time limits agreed upon. The Architect may, as the Architect judges desirable, issue additional drawings or instructions indicating in greater detail the construction or design of the various parts of the Work; such drawings or instructions may be effected by field order or other notice to the Contractor, and provided such drawings or instructions are reasonably consistent with the previously existing Contract Documents, the Work shall be executed in accordance with such additional drawings or instructions without additional cost or extension of the contract time. If the Contractor claims additional cost or time on account of such additional drawings or instructions, the Contractor shall give the notice provided in subparagraph 4.3.7.

4.2.12 Interpretations or recommendations of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations or recommendations, the Architect will endeavor to secure faithful performance by both Owner and Contractor.

4.2.13 The Owner's decisions on matters relating to aesthetic effect shall be final.

4.3 CLAIMS AND DISPUTES

4.3.1 Definition. A Claim is a demand or assertion by the Contractor seeking, as a matter of right, adjustment or interpretation of Contract terms, 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 Owner and Contractor arising out of or relating to the Contract. Claims must be made by written notice. The responsibility to substantiate Claims shall rest with the Contractor.

4.3.1.1 The Owner will consider contractual claims in accordance with the "Spotsylvania County School Board Procedure For Resolution of Contractual Disputes." The procedures and time limits for claims set forth below in paragraphs 4.3.2 through 4.3.9 must be followed initially, and as a prerequisite to, filing any claim pursuant to the Spotsylvania County School Board Procedure for Resolution of Contractual Claims.

4.3.1.2 If the Architect provides services in connection with a legal proceeding, except when the Architect is a party thereto and such services relate to its own defenses, then the cost of such services shall be paid for by the party whose act or omission was a proximate cause of the problem that led to the requirement to provide such services.

4.3.2 Decision of Architect. Claims of the Contractor, including those alleging an error or omission by the Architect, shall be referred initially to the Architect for action as provided in Paragraph 4.4. A decision by the Architect, as provided in Subparagraph 4.4.4 shall be required as a condition precedent to litigation of a Claim of the Contractor against the Owner as to all such matters arising prior to the date final payment is due, regardless of (1) whether such matters relate to execution and progress of the Work or (2) the extent to which the Work has been completed. The decision by the Architect in response to a Claim shall not be a condition precedent to litigation in the event (1) the position of Architect is vacant, (2) the Architect has failed to render a decision within agreed time limits despite it having received sufficient evidence from Contractor, (3) the Architect has failed to take action required under Subparagraph 4.4.4 within 30 days after the Claim is made, or (4) 45 days have passed after the Claim has been referred to the Architect.

4.3.3 Time Limits on Claims. Claims by the Contractor must be made within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims must be made by written notice. Any change or addition to a previously made claim shall be made by timely written notice in accordance with this subparagraph 4.3.3.

4.3.4 Continuing Contract Performance. Pending final resolution of a Claim, unless otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

4.3.5 Waiver of Claims: Final Payment. The making of final payment shall not constitute a waiver of Claims by the Owner against the Contractor.

Any Claim of the Owner against the Contractor shall be deemed to have accrued upon discovery by the Owner of the condition or breach upon which such Claim is based, for the purpose of any applicable statute of limitation.

4.3.6 Claims for Concealed or Unknown Conditions. Should conditions encountered below the surface of the ground require that footings, foundations or other parts of the building be raised, lowered or changed, or if additional depth of excavation below the levels shown on the Drawings is required in order to provide proper bearing for the building, any change in the amount of excavation, dewatering, sheeting, protection, rock excavation, backfill, concrete or other structural work, or any other work permanently incorporated in the building shall be considered a change in the Work, and the Contract Sum shall be adjusted as provided in this Article, provided that the Work has been ordered in writing as provided in 7.1.1. There shall be no adjustment to the Contract Sum on account of other costs resulting from subsoil or water conditions including, without limitations, costs on account of delay, administration, operations, temporary construction, cave-in or collapse of excavations, or pumping.

4.3.7 Claims for Additional Cost. If the Contractor claims that any acts or omissions of the Owner or the Architect, including any instructions or orders, whether oral, written, by Drawings, or otherwise, involve extra cost or time, and the Contractor has not received a written acknowledgement by the Owner or Architect that extra payment will be made or time extended on account thereof, the Contractor shall promptly so notify the Architect in writing of such Claim and shall not proceed with the Work relating to such Claim until the Contractor has received a Change Order, Construction Change Directive or further written order to proceed in accordance with Paragraph 4.4.4 except, as provided in Paragraph 10.3, in the case of an emergency affecting life or property. No Claim by the Contractor on account of such acts, omissions, instructions or orders shall be valid unless the Contractor has so notified the Architect, before proceeding, and has received the Change Order, Construction Change Directive or further written order to proceed.

4.3.8 Claims for Additional Time.

4.3.8.1 If the Contractor wishes to make claim for an increase in the Contract time, the Contractor shall give the Architect written notice thereof within seven (7) days after occurrence of the event giving rise to such claim. The Contractor shall have the burden of demonstrating the effect of the claimed delay on the Contract Time, and shall furnish the Architect with such documentation relating thereto as the Architect may reasonably require.

4.3.8.2 Any claim for extension of time based on delays caused by abnormal weather shall be substantiated by the following:

- a. Record of "normal weather conditions" established from historical weather data determined from climatological data sheets obtained from (U.S. Department of Commerce) National Weather Service Station for the locality closest to the project site for a five-year period preceding the date of the Contract.
- b. Weather data from National Weather Service for the time period cited in the claim for extension.
- c. Copy of Superintendent's daily report for time period cited in the claim for extension.
- d. Copy of the Contractor's construction schedule indicating critical major sequences of work.
- e. Documentation by the Contractor that abnormal weather conditions actually caused delay in project completion. Precipitation level must be more than a "trace" for consideration as a basis of delay.

4.3.8.3 The determination of the allowability of a claim for an increase in the Contract Time shall be made in accordance with the provisions of subparagraphs 4.3.8.4 through 4.3.8.9.

4.3.8.4 The Contractor agrees that the Contract Time will not be extended due to normal inclement weather. For a time extension to be granted for abnormal inclement weather: (1) such weather must, in the opinion of the Architect, actually have an adverse effect upon the progress of the Contractor's Work which is of a critical nature; and (2) in the opinion of the Architect, the adverse effect must not be due to any fault or negligence of the Contractor and could not have been avoided through proper planning, coordination and implementation of adequate weather protection necessary to allow the Work to be continued without adverse effect upon labor production. The Contractor agrees that the fact abnormal inclement weather may occur does not, of itself, justify any time extension hereunder.

4.3.8.5 The Contractor agrees that it shall not be entitled to a time extension for normal inclement weather which can be expected at the Project locale due to precipitation or temperature, based upon actual data from the U. S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) for the locale of the Project. The Contractor acknowledges and warrants that in making its proposal or bid and Construction Schedule for the Work, it gave due care and consideration to this expected number of calendar days of inclement weather for the locale of the Project and allowed therefore as well as the impact of inclement weather on subsequent work. During the time of performance, should the expected number of calendar days of inclement weather for the locale of the Project be less than originally anticipated by the Contractor and the Owner, at the time of contracting, those days not so affected by inclement weather shall be

considered float time in the Construction Schedule.

4.3.8.6 The Contractor agrees that the measure of abnormal inclement weather due to precipitation or temperature during the period covered by this Contract shall be the number of days in excess of those shown in the weather data referenced in subparagraph 4.3.8.5 hereof, in which precipitation exceeds .10 inch (or in the case of snow or ice pellets, 1 inch or more), or in which the highest temperature was 32 degrees Fahrenheit or below or the lowest temperature was 95 degrees Fahrenheit or above.

4.3.8.7 No extension of time will be made for abnormal inclement weather after the principal portions of the Work are enclosed except for site work which critically affects the Contract Time. For the purpose of this Paragraph 4.3.8, the term "enclosed" is defined to mean when the Work is sufficiently closed in (exterior walls up and roof in place) so as to permit any structure, or major portion thereof which is part of the Work, to be adequately heated so as to allow the various trades to perform their work.

4.3.8.8 If the total calendar days lost due to inclement weather, from the time written notice to proceed is given until the Work is enclosed, exceeds the total number of days to be expected to be lost for the same time period, a time extension, if granted, shall only be the number of calendar days needed to equal the excess number of calendar days lost to such abnormal inclement weather.

4.3.8.9 Notwithstanding any other provision of the Contract, the Contractor agrees that its right to receive an extension of time pursuant to the provisions of this Paragraph 4.3.8 shall be the Contractor's sole and exclusive remedy with regard to any delays or interference with the Contractor's schedule for completion of the Work, and the Contractor hereby waives any and all claims for monetary damages arising out of or related to any such delay or interference, including, but not limited to, claims for delay damages, interference damages, impact damages, acceleration damages, and any other form of time-related damages.

4.3.9 Injury or Damage to Person or Property. If either party to the Contract suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

4.3.10 If the Architect is required to provide contingent additional services as provided in the Agreement between the Owner and Architect, specifically relating to additional compensation for the Architect for evaluating an excessive number of claims submitted by the Contractor, then such services shall be paid for by the Contractor through the Owner, unless the contingent additional services result from negligence or omission by the Architect.

4.4 REVIEW OF CLAIMS BY ARCHITECT

4.4.1 The Architect will review Claims and take one or more of the following preliminary actions within ten days of receipt of a Claim: (1) request additional supporting data from the Contractor, (2) submit a schedule to the parties indicating when the Architect expects to take action, (3) reject the Claim in whole or in part, stating reasons for rejection, (4) recommend approval of the Claim by the Contractor to the Owner; (5) suggest a compromise; or (6) advise the parties the Architect is unable to resolve the Claim if the Architect lacks sufficient information to evaluate the merits of the Claim, or if the Architect and the Owner conclude that it would be inappropriate for the Architect to resolve the Claim. The Architect may also, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim.

4.4.2 If a Claim has been resolved, the Architect will prepare or obtain appropriate documentation.

4.4.3 If a Claim has not been resolved, the Contractor making the Claim shall, within ten days after the Architect's preliminary response, take one or more of the following actions: (1) submit additional supporting data requested by the Architect, (2) modify the initial Claim or (3) notify the Architect that the initial Claim stands.

4.4.4 If a Claim has not been resolved after consideration of the foregoing and of further evidence presented by the parties or requested by the Architect, the Architect will notify the parties in writing of the Architect's recommendation relative to the Claim, including any recommended change in the Contract Sum or Contract Time or both, within seven days unless such time is extended by agreement of the Owner and Contractor. After receiving the recommendation of the Architect, the Owner shall make its decision in writing after considering the recommendation of the Architect, which decision shall be final and binding on the Contractor but subject to the Spotsylvania County School Board Procedure for Resolution of Contractual Disputes. At the time of any such written decision by the Owner, the Architect may issue to the Contractor a written order to proceed. Upon receiving a written order to proceed, the Contractor shall proceed diligently with the performance of the Work relating to the claim. If there is a surety and there appears to be a possibility of a Contractor's default, the Architect may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

ARTICLE 5

SUBCONTRACTORS

5.1 DEFINITIONS

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

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

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

5.2.1 The Contractor shall furnish in writing to the Owner and the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work ("list of proposed subcontractors") within ten (10) working days after award of the Contract (except those proposed subcontractors that are required to be identified and have already been identified by Contractor on the Bid Form). The Architect will promptly, but no later than seven (7) days after receipt of the information, reply to the Contractor in writing stating whether or not the Owner or the Architect, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Architect to reply within seven (7) days after receipt of the information shall constitute notice of no reasonable objection. No payments shall be made to the Contractor prior to receipt by the Owner and the Architect of the "list of proposed contractors."

5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. 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. However, no increase in the Contract Sum shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

5.2.4 The Contractor shall not change a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such change.

5.3 SUBCONTRACTUAL RELATIONS

5.3.1 By appropriate agreement, written where legally required for validity, 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 terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contract that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement which may be at variance with the Contract Documents. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

5.3.2 Neither the Owner nor the Architect shall be obligated to pay or to insure the payment of any monies to subcontractors due to any non-payment to the Contractor or non-payment of subcontractors by the Contractor.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner provided that:

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor in writing; and
- .2 assignment is subject to the prior rights and obligations of the surety, if any, obligated under bond relating to the Contract; and
- .3 the subcontractor provides bonds as required by law of prime contractors and by Owner.

5.4.2 Owner shall only be responsible for compensating subcontractors for Work performed or materials furnished from and after the date on which the Owner gives written notice of its acceptance of the subcontract agreement. Owner shall not be responsible for any Work performed or materials furnished by subcontractors prior to the date of Owner's written notice of acceptance.

ARTICLE 6

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. The Owner further reserves the right to perform other non-Project-related construction work, maintenance and repair work, and school program operations at the site and near the site during the time period of the Work.

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

6.1.3 Contractor shall cooperate with other separate contractors to ensure that the Work remains on schedule. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule and Contract Sum deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

6.2 CONTRACTOR'S RESPONSIBILITY

6.2.1 It shall be the responsibility of the Contractor to assist, review and coordinate the scheduling of work performed by any of the Owner's separate contractors. The Contractor shall afford the Owner and separate contractors reasonable site access and opportunity for introduction, storage or staging of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report in writing to the Architect and Owner apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results, and shall promptly report in writing to the Architect and Owner if Owner's separate contractors fail in any way to timely perform their services or negatively impact Contractor's schedule or ability to perform the Work. Failure of the Contractor so to report shall constitute an acknowledgement that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work and is performed in a timely manner, except as to defects not then reasonably discoverable.

6.2.3 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

6.2.4 The Contractor shall promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Subparagraph 10.2.5

6.2.5 Claims and other disputes and matters in question between the Contractor and a separate contractor shall be subject to the provisions of Paragraph 4.3 provided the separate contractor has reciprocal obligations.

6.2.6 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the contractor in Paragraph 3.14.

6.3 OWNER'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Paragraph 3.15, the Owner may clean up and allocate the cost among those responsible as the Architect determines to be just.

ARTICLE 7

CHANGES IN THE WORK

7.1 CHANGES

7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article and elsewhere in the Contract Documents. A properly prepared written request for a change in the Work by Contractor shall be accompanied by sufficient supporting data and information to permit the Architect to make a recommendation to Owner.

7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect.

7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

Contractor shall not make any claim for an adjustment of time or Contract Sum due to: a change in the materials used; a change in the specified manner of constructing and/or installing the Work; or additional labor, services, or materials beyond that actually required by the terms of the Contract Documents, unless made pursuant to a written order or directive from Owner authorizing Contractor to proceed with a Change in the Work. No claim for an adjustment of time or Contract Sum shall be valid unless so ordered or directed.

7.1.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

7.1.4.1 All unit prices stated in the Contract Documents shall include allowances for overhead and profit.

7.1.5 All proposals for a change involving an increase or decrease in the amount of the Contract shall be submitted by the Contractor in a completely itemized breakdown form, with specific information on all items listed in Paragraph 7.1.6.

7.1.6 If changes in the Work (initiated by Proposed Change Order (PCO) issued by the Architect or Contractor) provide for an adjustment to the Contract Sum, the adjustment (increase or decrease) shall be based on the following, unless noted otherwise:

- .1 Material quantities and unit prices (separated into trades; include sales tax).
- .2 Labor costs (raw cost; separated into labor hours and cost).
- .3 Labor burden, applied to labor only, including but not limited to, workers' compensation and public liability, social security tax, old age and unemployment insurance, union welfare fund and fringe benefits. Contractor shall be required to substantiate the labor burden percentage applied to any change in contract amount. Labor burden percentage shall not exceed 30% in any case.
- .4 Construction equipment cost.
- .5 Overhead and profit combined (on claims for net increase only), as defined in Subparagraph 7.3.10.
- .6 Cost of Premiums/Bonds (for General Contractor only) based on net increase or decrease only. Evidence of additional premium/bond costs shall be submitted with claim.

7.1.7 On proposals involving both increases and decreases in the amount of the Contract, commission will be allowed on the net increase only.

7.1.8 When a change in the Work could affect the cost of the Work, the Architect may issue a written Proposed Change Order to the Contractor. Contractor shall respond promptly to any Proposed Change Order, and in no event later than fourteen (14) days after receipt of the Request, unless upon agreement between the Contractor and Architect.

Any delays, damages, cost escalations, or revisions in the scope of the work necessary to implement the contemplated change, resulting from the failure of the Contractor to respond within fourteen (14) days to the Architect's Proposed Change Order, shall be the sole responsibility of the Contractor.

7.2 CHANGE ORDERS

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect, stating their agreement upon all of the following:

- .1 a change in the Work;
- .2 the amount of the adjustment in the Contract Sum, if any; and
- .3 the extent of the adjustment in the Contract Time, if any.

7.2.2 Except as provided in Subparagraphs 7.1.4, 7.1.4.1, 7.1.5, and 7.1.6, methods used in determining adjustments to the Contract Sum may include those listed in Subparagraph 7.3.3.

7.2.3 All Change Order proposed pricing shall be valid for a minimum of thirty (30) days.

7.2.4 Contractor agrees that acceptance of a Change Order by the Contractor constitutes full accord and satisfaction from any and all Claims, whether direct or indirect, arising from the subject matter of the Change Order.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 as provided in Subparagraph 7.1.6.

7.3.4 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time. Failure of the Contractor to provide the written notice required herein shall result in a waiver of any claim for an adjustment in the Contract Sum and/or Contract Time.

7.3.5 A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Architect on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an allowance for overhead and profit in accordance with the schedule set forth in Subparagraph 7.3.10 below. In such case, and also under Subparagraph 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph 7.3.6 shall be limited to the following:

- .1 actual costs of labor, including social security, unemployment insurance, and workers' compensation insurance;
- .2 actual costs of materials, supplies and equipment, including cost of transportation used in performing the Change in the Work; and
- .3 actual rental costs of machinery and equipment rented from third parties, exclusive of hand tools,; and
- .4 actual costs of premiums for all bonds and insurance and permit fees; and
- .5 additional costs of supervision and field office personnel directly attributable to the change.

The Contractor shall keep and present, in such form as the Architect or Owner may prescribe, an itemized accounting of the items listed above, together with appropriate supporting documentation.

7.3.7 Pending final determination of cost to the Owner, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

7.3.8 If the Owner and Contractor do not agree with the adjustment in Contract Time or the method for determining it, the adjustment or the method shall be referred to the Architect for determination.

7.3.9 When the Owner and Contractor agree with the determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

7.3.10 In Subparagraphs 7.1.4.1, 7.1.5, 7.1.6, 7.2.2 and 7.3.6, the allowance for overhead and profit combined, included in the total cost to the Owner, shall be based on the following schedule:

- .1 for the Contractor, for any Work performed by the Contractor's own forces, 10 percent of the cost;
- .2 for the Contractor, for Work performed by his Subcontractor, 5 percent of the amount due the Subcontractor;
- .3 for each Subcontractor or Sub-subcontractor involved, for any Work performed by that Contractor's own forces, 15 percent of the cost;
- .4 for each Subcontractor, for Work performed by his Subcontractors, 5 percent of the amount due the Subcontractor;
- .5 cost to which overhead and profit is to be applied shall be determined in accordance with Paragraph 7.3.6.
- .6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over \$500.00 be approved without such itemization.

7.3.11 In Subparagraphs 7.1.6, 7.2.2 and 7.3.6, the following conditions shall apply:

- .1 The cost or credit to the Owner, resulting from a change in the Work shall be determined on the basis of the actual cost to the Contractor for making the change. In order to expedite the Work, Change Orders may be written based on estimates of cost when such procedure is acceptable to the Owner and the Contractor, and on unit prices when unit prices have been agreed upon. Change Orders based on estimated costs or unit prices shall be amended to reflect actual cost when the actual costs are submitted by the Contractor to the Architect and approved by the Owner. Procedures for submittal of estimates, actual costs, and Proposals for Change Orders shall be in accordance with the requirements specified elsewhere in the Contract Documents.

- .2 Subcontractor's cost shall be limited to the cost of materials, rental value of tools and equipment (not to include hand tools or other tools and equipment owned and used by subcontractor on a frequent basis), the cost of labor (including Social Security, Union Welfare fund, unemployment, and Workers' Compensation Insurance). Labor cost may include a pro rata share of Superintendent's time only when an extension of Contract Time is granted by the change. Labor cost may include bond premiums only if bond premiums change due to the change in the Work. The allowance for overhead and profit combined shall be as cited in Paragraph 7.3.10.
- .3 Subcontractor's overhead shall include the following: Bond premiums (unless the change in the Work causes an increase or decrease), supervision, superintendence, wages of time keepers, watchmen, and clerks, small tools, incidentals, general office expense, and all other expenses not included in "Cost" as set forth in 7.3.11.2 above.
- .4 The total fee paid to the Contractor for handling the Change Order includes general office expense, overhead, profit, insurance premium, and all incidental field work relating to the change, including field office coordination and supervision.
- .5 If the net value of the change results in a credit from the subcontractor, the credit given shall be the net cost without overhead or profit. The cost as used herein shall include all items of labor, materials, and equipment.

7.4 MINOR CHANGES IN THE WORK

7.4.1 With prior written notice to the Owner's representative, the Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. Minor changes in the Work shall not include changes that involve the outward appearance of the structure, color schemes, floor plans, building materials, landscaping or mechanical equipment.

7.4.2 Allowance balances may be used to fund changes in the Work. The Contractor will not be allowed an overhead, profit or fee mark-up when changes in the Work are funded by one of the Allowances.

ARTICLE 8

TIME

8.1 DEFINITIONS

8.1.1 Unless otherwise provided, Contract Time is the period of time including authorized adjustments, allotted in the Contract Documents for Final Completion of the Work.

8.1.2 The date of commencement of the Work is the first business day after Contractor's written Notice to Proceed. The Notice to Proceed shall not be issued by the Architect until the Agreement has been signed by the Contractor, approved by the School Board and signed by the Owner's authorized representative, and the Owner and Architect have received, and approved as to form, all requirement payment and performance bonds and insurance verifications, in compliance with Article 11. . The date shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible.

8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Paragraph 9.8. As to all acts or failure to act occurring prior to the relevant Date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such Date of Substantial Completion; as to all acts or failures to act occurring subsequent to the relevant Date of Substantial Completion, any applicable statute of limitations shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certificate for Payment. The date of Final Completion is the date certified by the Architect in accordance with paragraph 9.10. Unless otherwise agreed in writing by Owner, Contractor agrees that Final Completion shall occur not more than 30 days after the date of Substantial Completion.

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

8.2 PROGRESS AND COMPLETION

8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor stipulates that the Contract Time is a reasonable period for performing the Work.

8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor. The date of commencement of the Work shall not be changed by the effective date of such insurance.

8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial and Final Completion within the Contract Time.

8.2.4 Whenever it becomes apparent to the Architect and Owner, through review of the submitted progress schedules or through visual observations of the progress of construction, that the Contract completion dates may not be met, the Contractor shall be required to take as many of the following actions, at no additional cost to the Owner, as may be necessary.

- .1 Increase construction manpower in such quantities and crafts as required to substantially eliminate, in the judgment of the Architect, and the Owner's project representative, the uncompleted backlog of work.
- .2 Increase the number of working hours per shift, shifts per day, days per week, amount of construction equipment, or any combination of the above sufficiently to substantially eliminate, in the judgment of the Architect and Owner's project representative, the uncompleted backlog of work.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 If the Contractor is delayed at any time in progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by governmental actions, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, or by delay authorized in writing by the Owner, or by other causes which the Architect and Owner determine may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect and Owner may determine. Notwithstanding any other provisions to the contrary, any delay occasioned by the Contractor, Subcontractors, or Sub-subcontractors or the employees or agents of same, shall not warrant an extension of the contract time.

8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraph 4.3.

8.3.3 The Contractor's remedies for delay as described above shall be limited to an extension of the Contract time.

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

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

9.2 SCHEDULE OF VALUES

9.2.1 Within two weeks after award of this Contract, the Contractor shall submit to the Architect a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Architect or Owner may require, and shall be revised if later found by the Architect or Owner to be inaccurate. This schedule, unless objected to by the Architect or Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment.

9.3 APPLICATIONS FOR PAYMENT

9.3.1 At the time or times established in the Agreement, the Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the schedule of values. The format and number of copies of such Applications for Payment shall be as directed by the Architect. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and reflecting retainage.

9.3.1.1 Such applications may include requests for payment on account of changes in the Work which have been properly authorized by Construction Change Directives but not yet included in Change Orders.

9.3.1.2 Such applications may not include requests for payment of amounts that have not yet been invoiced by a Subcontractor or that the Contractor does not intend to pay to a Subcontractor or material supplier because of a dispute or other reason.

9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect

the Owner's interest, and shall include applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

9.3.2.1 The Contractor shall submit to the Architect a completed Application for Payment on AIA Document G702, Application and Certificate for Payment, and must include the Contractor's notarized signature. The Schedule of Values as specified in 9.2.1 shall be attached thereto with every column and total completed. The Contractor shall submit such supporting data substantiating the Contractor's right to payment as the Owner or Architect may require. Until Final Completion, the Owner shall pay 95% of the amount due the Contractor on account of progress payments.

9.3.2.2 Contractor shall provide invoices, package slips or other form of supporting data for materials stored on-site claimed on the progress payment, unless it can be verified through on-site observations.

9.3.3 Applications for Payment shall be for not more than ninety-five percent (95%) of the cost of labor and material actually incorporated into the project during the previous month, less previous payments. The five percent (5%) retainage shall be retained in full until the final payment application at the completion of ALL work, including "punch list" items. The final payment application shall also include a completed affidavit in accordance with 9.10.2.

9.3.4 Applications for Payment must be received by the Architect not later than two (2) weeks prior to Second Monday of the month. A Certificate for Payment due will be submitted to the Owner as soon as the Application can be checked and certified by the Architect. Owner will make payment promptly, and not later than 30 days after receipt of Architect's certification.

9.3.5 By signing each Application for Payment, the Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment: (1) all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work; (2) the information presented in the Application for Payment is true, correct, accurate and complete; (3) that the Contractor has made the necessary detailed examinations, audits and arithmetic verifications; (4) that the work has been completed to the extent represented in the Application for Payment; (5) that the materials and supplies identified in the Application for Payment have been purchased, paid for and received; (6) that the subcontractors have been paid as identified in the Application for Payment or that Contractor has been invoiced for same; (7) that it has made the necessary on-site inspections to confirm the accuracy of the Application for Payment; and (8) that all due and payable bills with respect to the Work have been paid to date or

are included in the amount requested in the current application.

9.4 CERTIFICATES FOR PAYMENT

9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Subparagraph 9.5.1.

9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's observations at the site and the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information and belief, quality of the Work is in accordance with the Contract Documents. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

9.4.3 The issuance of a Certificate of Payment shall constitute a recommendation to the Owner regarding the amount to be paid. This recommendation is not binding on the Owner if Owner knows of other reasons under the Contract Documents why payment should be withheld.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

9.5.1 The Architect may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Subparagraph 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Subparagraph 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or another contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time.
- .7 persistent failure to carry out the Work in accordance with the Contract Documents;
- .8 failure of mechanical trade or electrical trade subcontractors to comply with mandatory requirements for maintaining record drawings. The Contractor shall check record drawings each month. Written confirmation that the record drawings are current will be required by the Architect before approval of the Contractor's monthly payment requisition; or
- .9 failure to submit a written plan indicating action by the Contractor to regain the time schedule for completion of Work within the Contract time.

9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

9.5.3 Notwithstanding any provision contained in this Article, if the Work has not attained Substantial Completion or Final Completion by the required dates, subject to extensions of time allowed under these Conditions, then Architect may withhold any further Certificate for Payment to Contractor to the extent necessary to preserve sufficient funds to complete construction of the Project and to cover liquidated damages. The Owner shall not be deemed in default by reasons of withholding payment as provided for in Article 9.

9.6 PROGRESS PAYMENTS

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment for undisputed amounts in the manner and within the time provided in the Contract Documents, and shall so notify the Architect. Payments to the Contractor shall

not be construed as releasing the Contractor or his Surety from any obligations under the Contract Documents.

9.6.2 Contractor shall, within seven (7) days after receipt of amounts paid by Owner for work under this Contract, either (1) pay the subcontractor for the proportionate share of the total payment received from Owner attributable to the work performed by the subcontractors under the contract; or (1) notify the Owner, Architect and subcontractor, in writing, of Contractor's intention to withhold all or a part of the subcontractor's payment with the reason for the nonpayment. Contractor agrees to pay interest to any subcontractor on all amounts owed by the Contractor by remain unpaid after seven (7) days except for amounts properly withheld pursuant to the Contract Documents. Contractor further agrees that it shall include in any contracts with subcontractors provisions requiring payment by subcontractors to its lower-tiered subcontractors within (7) days except for amounts property withheld pursuant to applicable subcontracts between the parties, and requiring that unless otherwise provided under the terms of any subcontracts, the subcontractors pay interest on any unpaid amounts at the rate of one percent per month. Interest on payments due hereunder shall accrue at the rate of one (1) percent per month from the due date of such payments.

9.6.3 Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, Sub-subcontractor or material supplier.

9.6.4 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

9.7 FAILURE OF PAYMENT

9.7.1 If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within ten (10) days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within ten (10) days after the date established in the Contract Documents the amount certified by the Architect and undisputed by the Owner, then the Contractor may, upon ten (10) additional days written notice to the Owner and Architect, stop the Work until payment of the undisputed amount owed has been received. The Contract Time shall be extended appropriately and 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 accomplished as provided in Article 7.

9.7.2 If the Owner provides written notice to the Contractor that (1) payment has been made; or (2) a bona fide dispute for payment exists, listing the specific reasons for nonpayment, then Contractor shall be liable for damages resulting from suspension of the Work. If a reason specified is that labor, services or materials provided by the Contractors are not provided in compliance with the Contract Documents, then the Contractor shall be provided a reasonable opportunity to cure the noncompliance or to compensate Owner for

any failure to cure the noncompliance. No amount shall be added to the Contract Sum as a result of a dispute between Owner and Contractor unless and until such dispute is resolved in Contractor's favor.

9.7.3 If the Owner is entitled to reimbursement or payment from the Contractor pursuant to the Contract Documents, then such payment shall be made promptly upon demand from the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due to Owner pursuant to the Contract, or if the Owner incurs any costs and expenses, including attorney's fees and fees for additional services of architects or consultants, to cure any default of the Contractor or to correct defective Work, then the Owner shall have an absolute right to offset such amount against the Contract Sum and, in the Owner's sole discretion and without waiving any other remedies, may elect either to:

- .1 deduct an amount equal to that which the Owner is entitled from any payment then and thereafter due to Contractor from Owner, or
- .2 issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the date determined by the Architect when the Work is sufficiently complete (including completion of "punchlist" items) that the Owner can fully occupy and utilize the Work for its intended purpose, with all of the Project's parts and systems operable as required by the Contract Documents, and a Final Occupancy Permit has been obtained. To be Substantially Complete, all Project systems included in the Work have been successfully tested and are fully operational; all required governmental inspections and certifications required of the Work have been made, approved and posted; designated initial instruction of Owner's personnel in the operation of Project systems has been completed; and all the required finishes set out in the Contract Documents are in place. The only remaining Work shall be minor in nature so that the Owner can occupy the Work for its intended purposes on that date, and the completion of the Work by the Contractor will not materially interfere with or hamper Owner's normal school operations or intended use. Only incidental cleaning, if required beyond cleaning needed for the Owner's full use, may remain for final completion. As a further condition of a determination of Substantial Completion, the Contractor shall certify that all remaining Work shall be completed within 30 days. Refer to the Project Manual and Owner's specifications for additional requirements for Substantial Completion.

9.8.2 When the Contractor considers that the Work, or a portion thereof designated in the Contract Documents for separate completion, is substantially complete and the premises comply with subparagraph 3.15.1, the Contractor shall submit to the Architect (1) a list of items to be completed or corrected, (2) all special warranties required by the Contract Documents, endorsed by the Contractor and in a form reasonably acceptable to the Architect and (3) the permits and certificates referred to in subparagraph 13.5.4. The

failure to include any items on the list mentioned in the preceding sentence does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. When the Architect on the basis of an inspection determines that the Work or designated portion thereof is substantially complete and the other conditions have been met, the Architect 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 Contractor for their written acceptance of the responsibilities assigned to them in such Certificate.

9.8.3 Upon Substantial Completion of the Work or designated portion thereof, the Owner shall not adjust retainage. Any payments due shall be made subject to subparagraph 9.3.3. The payment shall be as recommended by the Architect and agreed to by the Owner and less such amounts as the Architect shall determine is necessary for all incomplete Work, retainage applicable to such Work, liquidated damages and unsettled Claims.

9.8.4 Should the Architect charge the Owner for excessive numbers of inspections of the Work or a designated portion thereof to confirm it has attained Substantial Completion in accordance with the Contract Documents, the Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Architect for the additional inspections.

9.9 PARTIAL OCCUPANCY OR USE

9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor provided such occupancy or use is consented to by the insurer as required under Subparagraph 11.2.5 and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Subparagraph 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached by decision of the Architect.

9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

9.9.3 Unless otherwise agreed upon in writing, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents, nor shall it constitute evidence of Substantial Completion or Final Completion.

9.9.4 In the event the Owner takes partial occupancy or installs furnishings and equipment prior to Substantial Completion of the Project, Contractor shall obtain an endorsement to Contractor's Builder's Risk Policy to provide extended coverage for partial occupancy if Contractor's Builder's Risk Coverage required by Article 11 would not otherwise provide such coverage.

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly prepare, sign and issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in said final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Subparagraph 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. The Owner shall deduct from final Certificate of Payment any costs associated with Architect's inspections conducted pursuant to this Section in excess of two (2).

9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) Contractor's warranties, (6) maintenance and instruction manuals, (7) record drawings and "as built" drawings and (8) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interest or

encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees. The "as built" drawings shall be submitted by the Contractor showing all changes made during construction, including concealed mechanical, electrical and plumbing items.

9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, 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 Work not fully complete or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims. The making of final payment shall constitute a waiver of claims as provided in Subparagraph 4.3.5.

9.10.4 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. Such waivers shall be in addition to the waiver described in Subparagraph 4.3.5.

9.10.5 If and to the extent that, through no fault of the Owner, Architect, or the Architect's Consultants, the Date of Substantial Completion initially established in the Contract for Construction between Owner and Contractor to fully complete all construction is exceeded/extended or if the Architect's services are required for more than sixty days after the Date of Substantial Completion, compensation to the Architect for his services required for such extended administration of the Construction Contract shall be reimbursed to the Owner by the Contractor.

9.11 LIQUIDATED DAMAGES

9.11.1 The Owner requires that the Project shall be issued a Final Occupancy Permit and shall be Substantially Complete with all systems fully operational, all punch list work completed, and the Work fully acceptable by the Owner, no later than the date, or dates in case of multiple areas, indicated in the Contract Documents. The Project shall be Finally Complete no later than thirty (30) days after the date required for Substantial Completion.

9.11.2 The Contractor agrees that the Owner may retain such sum as is designated by the

Contract Documents from the amount of compensation to be paid him for each calendar day after the above mentioned Substantial Completion date[s] until the following two requirements have been met: (1) the Work has been issued a *permanent and final* County Occupancy Permit; and (2) the Work is Substantially Complete.

9.11.3 The Liquidated Damages amount of \$1000.00 per calendar day is agreed upon as the proper measure of liquidated damage that the Owner will sustain per day by the failure of the Contractor to substantially complete the Work at the stipulated time. The Contractor and Owner agree that the exact amount of damages that would be suffered by Owner is difficult to precisely quantify and the aforementioned amount is a reasonable estimate thereof and not in the nature of a penalty.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

10.1.2 Contractor's employees, agents, Subcontractors, anyone directly or indirectly employed by any of them, or anyone else for whose acts any of them may be liable, shall not perform any service for Owner while under the influence of any amount of alcohol or any controlled substance, or use, possess, distribute, or sell alcoholic beverages while on Owner's premises. No person shall use, possess, distribute or sell illicit or unprescribed controlled drugs or drug paraphernalia; misuse legitimate prescription drugs; or act in contravention of warnings on medications while performing the Work or on Owner's premises.

10.2 SAFETY OF PERSONS AND PROPERTY

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

- .1 employees on the Work, school personnel, students, and other persons on Owner's premises and other persons who may be affected thereby, including the installation of fencing between the Work site and the occupied portion of a connecting or adjacent educational facility; and
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and

- .3 other property at the site or adjacent thereto, such as other buildings, and their contents, fencing, trees, shrubs, lawns, walks, athletic fields, facilities and tracks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
- .4 any other property of the Owner, whether or not forming part of the Work, located at the site or adjacent thereto in areas to which the Contractor has access; and
- .5 all work and materials which may be caused by the effects of weather (rain, wind, ice, freezing, and heat); and
- .6 building elements and equipment when subject to damage.

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

10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, 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 sites and utilities. The Contractor shall also be responsible, at the Contractor's sole cost and expense, for all measures necessary to protect any property adjacent to the Project and improvements therein. Any damage to such property or improvements shall be promptly repaired by Contractor. Contractor shall provide reasonable full protection safeguards and provide approved all protection safety equipment for use by all exposed Contractor employees.

10.2.4 When use or storage of hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel, and shall only conduct such activities after giving reasonable advance written notice of the presence or use of such materials, equipment or methods to Owner and Architect. The storage of explosives on Owner's property is prohibited. The use of explosive materials on Owner's property is prohibited unless expressly approved in advance in writing by Owner and Architect.

10.2.5 The Contractor shall promptly remedy damage and loss to property referred to in Clauses 10.2.1 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Clause 10.2.1, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to

the Contractor's obligations under Paragraph 3.18.

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

10.2.7 The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

10.2.8 The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment and services, and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by the local fire chief or fire marshal. The area within the site limits shall be kept orderly and clean, and all combustible rubbish shall be promptly removed from the site.

10.2.9 The Contractor shall at all times protect excavations, trenches, buildings and materials, from rain water, ground water, backup or leakage of sewers, drains and other piping, and from water of any other origin and shall remove promptly any accumulation of water. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end. The Contractor shall provide all shoring, bracing, and sheathing required for safety and proper execution of the Work and shall have the same removed when Work is complete. All shoring, bracing, and sheathing shall be constructed in accordance with accepted engineering procedures and shall meet the requirements of all applicable federal, state and local regulations.

10.2.10 The Contractor shall remove snow and ice that might result in damage or delay.

10.2.11 During the progress of the Work and at all times prior to the date of Substantial Completion or occupancy of the Work by the Owner, whichever is earlier, the Contractor shall provide temporary heat, ventilation, and enclosure, adequate to permit the Work to proceed in a timely fashion, and to prevent damage to completed Work or Work in progress, or to materials stored on the premises.

The permanent heating and ventilation systems may be used for these purposes when available unless otherwise provided in the Contract Documents. When so used, and prior to substantial completion, Contractor shall provide new filters, clean the systems thoroughly, touch up paint, and take other measures to provide systems in the condition they would otherwise be found without such temporary use. In addition, the Contractor shall provide an extended warranty, if necessary, for the items so used so that the full warranty required by the Contract Documents is provided to the Owner.

All fuel used or electric power consumed hereunder shall be at the full expense of

the Contractor.

10.2.12 The Contractor shall do all things necessary to protect the Owner's premises and all persons from damage or injury, when all or a portion of the Work is suspended for any reason.

10.3 EMERGENCIES

10.3.1 In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7.

10.3.2 If Contractor imports hazardous materials into the project site, then Contractor hereby agrees to indemnify and hold harmless the Owner, its consultants, agents and employees against any claims arising out of or relating to such importation, including but not limited to costs and expenses the owner incurs for remediation of a material or substances the contractor brings to the sight

10.4 HAZARDOUS MATERIALS CERTIFICATION

The Contractor shall provide written certification that no materials used in the Work contain lead or asbestos materials in them in excess of amounts allowed by federal, state or local standards, laws, codes, rules and regulations; the Federal Environmental Protection Agency (EPA) standards; and/or the Federal Occupational Safety and Health Administration (OSHA) standards, whichever is most restrictive. The Contractor shall provide this written certification as part of submittals prior to Final Completion.

ARTICLE 11

INSURANCE AND BONDS

11.1 CONTRACTOR'S INSURANCE

The Contractor shall purchase and maintain or cause to be purchased and maintained such insurance as will protect the Contractor, and the Owner, from claims which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by the Contractor or by any subcontractor, lower tier contractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them be liable.

All insurance companies writing coverage for this project shall be approved or licensed to operate within the Commonwealth of Virginia. Written certification of this

requirement shall be presented to the Owner through the Architect. All insurance required herein shall be underwritten by a company rated not less than A- in A.M. Best's Key Rating Guide, Property-Casualty, and that permits waivers of subrogation. All insurance required herein shall name the Owner, its officers, agents and employees as an additional insured, except the Contractor's Worker's Compensation insurance. All insurance shall be written on an occurrence basis, if available, and shall contain a waiver of subrogation in favor of Owner on all claims arising out of the Project. The policies shall provide such waivers of subrogation by endorsement or otherwise.

The Contractor shall not be allowed to commence work under the Contract until the Contractor has obtained all of the minimum amounts of insurance required under this Article 11, and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor or lower tier contractor to commence work on any subcontract or lower tier contract until the same insurance has been obtained by the subcontractor and lower tier contractor and approved by the Owner.

The Contractor shall provide to the Owner written certification that each of the Contractor's subcontractors or lower tier contractors either have their own insurance as specified herein, or that the Contractor has included in this insurance coverage, Contractors' Protective Liability on a "blanket" basis to cover the operations of any subcontractor or lower tier contractor.

Any insurance company writing policies for this project must be acceptable to the Owner, which acceptance shall not be unreasonably withheld.

It shall be the Contractor's responsibility to provide the Owner with written certification of renewal of insurance in sufficient time so as to be in possession of the Owner no less than thirty (30) days prior to policy expiration date. The Contractor shall provide the Architect with a copy of said renewal certification. Allowing the insurance to expire becomes negligence on the part of the Contractor and shall be grounds to immediately stop the work by direction of the Owner. No work shall proceed until renewal insurance has been reviewed and approved by the Owner.

ALL INSURANCE AND BONDS REQUIRED UNDER THIS ARTICLE 11 SHALL REMAIN IN EFFECT FOR A MINIMUM PERIOD OF ONE YEAR FROM DATE OF FINAL COMPLETION AND ALSO IN EFFECT FOR THE DURATION OF PORTIONS OF THE WORK STIPULATED AS HAVING EXTENDED WARRANTIES BEYOND THE NORMAL ONE YEAR WARRANTY.

Before starting work, the Contractor shall furnish to the Owner, through the Architect, duly executed certificates of all required insurance. The certificates shall also state that such insurance is in force and cannot be canceled or released except, upon thirty (30) days prior written notice to the Owner, with a copy to the Architect and Owner. All policies shall be written specifically for this project, with the name of the project on said

policies. If requested by Owner, the Contractor shall furnish the Owner with true copies of each policy required of him, his subcontractor or lower tier contractors.

11.1.1 Workers' Compensation and Employer's Liability: Insurance shall be maintained by the Contractor, to cover all the Contractor's employees employed at, or in connection with, the work to be performed, all in accordance with the laws of the Commonwealth of Virginia. The Contractor shall carry Workers' Compensation Insurance as required under Virginia law.

11.1.2 Comprehensive General Liability Insurance: The Contractor shall maintain comprehensive general liability including, but not limited to:

Premises and Operations: including, but not limited to, bodily injury, including death at any time resulting there from, to any person, or property damage resulting from execution of the Work provided for in this Contract, or due to or arising in any manner from, any act or any omission or negligence of the Contractor and any subcontractor, their respective employers, or agents.

Completed Operation and Products: including, but not limited to, bodily injury including death at any time resulting there from, to any person, or property damage because of goods, products, materials or equipment used or installed under this Contract, or because of completed operations, which may become evident within two (2) years after acceptance of the building, including damage to the building or its contents.

Contractual: each and every policy for liability insurance carried by each contractor, subcontractor or lower tier contractor, as required by this Article 11 shall specifically include contractual liability (hold harmless clause) coverage with respect to Article 3.18 of these General Conditions.

Minimum Limits of Liability shall be:

1. Bodily Injury
\$3,000,000 -- CSL Each Occurrence
\$3,000,000 -- CSL Aggregate,
2. Property Damage
\$3,000,000 – Each Occurrence
The Employee Exclusion will be deleted from the Personal Injury Liability coverages.
3. Products and Completed Operations
\$3,000,000 Aggregate (to be maintained for a period of two years after Final Payment; Contractor shall continue to provide evidence of such coverage to

Owner on an annual basis during this period.)

11.1.3 Comprehensive Automobile Liability: The Contractor shall maintain comprehensive automobile liability (including all automotive equipment owned, operated, rented, or leased). Minimum Limits of Liability shall be:

1. Bodily Injury and Property Damage
\$3,000,000 CSL Each Accident
2. Uninsured Motorist Coverages
\$1,000,000 -- Each Claim

11.1.4 "X.C.U.": Insurance required under 11.1.2 of this Article 11, shall specifically include property damage caused by conditions otherwise subject to exclusions "X, C, U" (explosion, collapse, or underground damage) as defined by the National Bureau of Casualty Underwriters.

11.1.5 Additional Insurance: In addition to the insurance referred to in Paragraphs 11.1.2 through 11.1.4, the Contractor shall also procure and keep in effect until completion of the Work, the following kinds of insurance with the following minimum limits:

1. Excess liability (umbrella coverage) in excess of and applicable to the coverage in 11.1.2, 11.1.3, and 11.1.4 above, in an amount of not less than \$5,000,000 each occurrence.
2. Aircraft Insurance: Any contractor using or contemplating use of any type of aircraft either owned, hired, leased, rented or borrowed, in connection with the Work in any manner whatsoever, shall, prior to use of such aircraft, provide the Owner with proof of adequate insurance coverage for liability and property damage. The amount and type of coverage shall be acceptable to the Owner. If the amount and type of coverage normally carried by the Contractor is not acceptable to the Owner, the Contractor shall obtain additional coverage as needed to comply with the Owner's requirements. The Contractor shall submit proof of coverage to the Owner through the Architect. If aircraft is not intended for use on this project, a statement shall be provided on an attachment to the Certificate of Insurance to the effect that "no aircraft is intended for use and said insurance for same is not required."
3. Also, the Contractor's owned, leased, hired and/or borrowed equipment, including supplies, materials, and tools, not forming a part of or incorporated into the completed work, is not covered by the Owner's insurance. Therefore, the Contractor shall determine whether or not it desires coverage for same, and if so, shall provide coverage at its own expense. The Contractor, lender, or other type of owner of said mentioned equipment, shall not have claim against the Owner of this project, for any reason whatsoever,

which is used on this project.

11.1.6 The Contractor shall either (1) provide Owner's Protective Liability insurance with the following minimum limits in favor of the Owner:

1. Bodily Injury and Property Damage:
\$3,000,000 -- CSL Each Occurrence
\$3,000,000 -- CSL Aggregate

or (2) provide a certificate of insurance for this project which identifies the Owner as an additional insured under the Contractor's policy.

11.1.7 The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor that entitles the Owner to declare the Contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.

11.2 PROPERTY INSURANCE / BUILDER'S RISK INSURANCE

11.2.1 Unless otherwise provided, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the Commonwealth of Virginia, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.3 to be covered, whichever is earlier. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work.

11.2.1.1 Property insurance shall be on an all-risk policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, false work, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's services and expenses required as a result of such insured loss. Coverage for other perils shall not be required unless otherwise provided in the Contract Documents.

11.2.1.2 If the property insurance requires minimum deductibles and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of such deductibles.

11.2.1.3 Unless otherwise provided in the Contract Documents, this property insurance

shall cover portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also portions of the Work in transit.

11.2.2 Waivers of Subrogation. The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by property insurance obtained pursuant to this Paragraph 11.2 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

11.2.3 A loss insured under Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

11.2.4 The Owner as fiduciary shall have power to adjust and settle a loss with insurers.

11.2.5 Partial occupancy or use in accordance with Paragraph 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies.

11.3 PERFORMANCE BOND AND PAYMENT BOND

11.3.1 The Contractor shall furnish bonds fully covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract, or as required by law. The surety on said bonds shall be a company approved by the Owner, and must have a minimum of an A – rating by A.M. Best.

11.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

11.3.3 The Contractor shall deliver copies of the required bonds to the Owner and Architect not later than five business days after execution of the Contract by Owner. All bonds will be reviewed by the Architect for compliance with the Contract Documents.

ARTICLE 12

UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

12.1.1 If a portion of the Work is covered contrary to the Architect's or Owner's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Architect or Owner, be uncovered for the Architect's observation and be replaced at the Contractor's expense without change in the Contract Time.

12.1.2 If a portion of the Work has been covered which the Architect or Owner has not specifically requested to observe prior to its being covered, the Architect or Owner may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Contractor shall pay such costs unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

12.1.2.1 The above shall also apply to surveys and tests as well as examinations of completed work. In any case, costs shall include cost of professional advice and services necessary to complete examinations, surveys and tests.

12.2 CORRECTION OF WORK

12.2.1 The Contractor shall promptly correct Work rejected by the Architect or Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's and other consultant's services and expenses made necessary thereby, any cost, loss, or damages to the Owner resulting from such failure or defect, including attorney's fees, and all costs associated with having to re-bid any portion of the project which Contractor fails to correct.

12.2.1.1 If seasonal limitations prevent performance of required tests for heating or air conditioning equipment or other equipment as of the date of Substantial Completion for the Work, the warranty period for such systems shall begin after the tests have been successfully performed. The use of permanent equipment for temporary heat or other construction activities shall in no way affect warranty period for equipment. Warranty period shall commence when above mentioned tests have been successfully performed.”

12.2.1.2 The Owner may make emergency repairs to the Work or take such other measures necessary under the circumstances, if the Contractor does not promptly respond to a notice of defect or nonconforming Work. Contractor shall be responsible to Owner for this cost if the reason for the repairs is attributable to the Contractor. If payments then or thereafter due to the Contractor are not sufficient to cover such costs, then the Contractor shall pay the difference to the Owner on demand.

12.2.2 If within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Subparagraph 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. Contractor shall respond with due diligence to any such written notice from the Owner, and shall be responsible for any damages resulting from a failure to respond with due diligence. Any defect or deficiency in any Warranty item that could affect the safety of persons or property shall be considered an emergency and must be corrected by Contractor as soon as practicable without delay to prevent threatened damage, injury or loss. Contractor shall be responsible for any damages resulting from a failure to correct any defect or deficiency in such emergency, and shall be responsible for all costs incurred by Owner in responding to such emergency and in mitigating damages to persons or property in the event of Contractor's failure to correct. This period of one year shall be extended with respect to portions of Work first performed after Substantial completion by the period of time between Substantial Completion and the actual performance of the Work. This obligation under this Subparagraph 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition. All damages recoverable hereunder shall be in addition to any and all damages recoverable under any other provision of this contract including those recoverable under Section 12.2.1 of these General Conditions.

12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

12.2.4 If the Contractor fails to correct nonconforming Work or damages resulting from nonconforming Work within a reasonable time, the Owner may correct it in accordance with

Paragraph 2.4. If the Contractor does not proceed with correction of such nonconforming Work within a reasonable time fixed by written notice from the Architect, the Owner may remove it and store the salvable materials or equipment at the Contractor's expense. If the contractor does not pay costs of such removal and storage within ten days after written notice, the Owner may upon ten additional days written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including compensation for the Architect's services and expenses made necessary thereby. If such proceeds of sale do not cover costs that the Contractor should have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

12.2.5 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractor caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

12.2.6 Nothing contained in this Paragraph 12.2. shall be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the time period of one year as described in Subparagraph 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the 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 the Contractor's obligations other than specifically to correct the Work.

12.2.7 All construction costs resulting from Contractor's negligence, lack of oversight, inattention to detail, failure to investigate or failure to follow the Contract documents will be borne by the Contractor.

12.3 ACCEPTANCE OF NONCONFORMING WORK

12.3.1 If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made. Owner has the right, based upon the circumstances surrounding the nonconforming work, to consider any of the following in determining the appropriate and equitable amount of reduction of the Contract Sum:

- a. Contractor's savings due to Work not in accordance with the Contract Documents, including savings in labor and material costs;

- b. Costs of correcting such nonconforming work, including costs of additional material and labor, less costs incurred in performing nonconforming work; or
- c. Costs of correcting such nonconforming work, including costs of additional material and labor.

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

13.1.1 The Contract shall be governed by the law of the Commonwealth of Virginia. Any dispute arising out of the Contract Documents, their performance, or their interpretation shall be litigated only in the Circuit Court of the County of Spotsylvania, Virginia.

13.2 SUCCESSORS AND ASSIGNS

13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract, in whole or in part, without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

13.3 WRITTEN NOTICE

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

13.4 RIGHTS AND REMEDIES

13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

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

13.5 TESTS AND INSPECTIONS

13.5.1 Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority. The Contractor shall bear costs of such tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so the Architect may observe such procedures.

13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Subparagraph 13.5.1, the Architect will, upon written authorization from the Owner, instruct the contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so the Architect may observe such procedures. The Owner shall bear such costs except as provided in Subparagraph 13.5.3.

13.5.3 If such procedures for testing, inspection or approval under Subparagraphs 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses.

13.5.4 The Contractor shall obtain and deliver promptly to the Architect, with a copy to the Owner, any occupancy permit and any certificate of final inspection of any part of the Contractor's work and operating permits for any mechanical apparatus, such as elevators, escalators, boilers, air compressors, etc., which may be required by law to permit full use and occupancy of the premises by the Owner. Receipt of such permits or certificates by the Architect shall be a condition precedent to Substantial Completion of the Work.

13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

13.5.7 Owner's Right to Operate Equipment: When the required test of a system or systems has not been successfully completed at the time the Work under the Contract has otherwise been finally completed, the Contractor shall operate these services when

required until the tests have been successfully completed or he shall give the Owner the right to operate them.

13.6 LEGAL CLAIMS

13.6.1 Should the contractor make a legal claim, institute legal proceedings, or take legal action of any kind pursuant to this project, such action shall be filed only in Spotsylvania County, Virginia. Contractor agrees that prior to taking any such legal action, all such claims shall have first been made in accordance with the provisions of Section 4.3. Contractor hereby agrees to the waiver of any and all claims not made in accordance with Section 4.3, and understands that the procedures set forth in Section 4.3 are mandatory prerequisites to the institution of any legal proceedings.

13.6.2 Contractor stipulates that Owner, as a public School Board, is a political subdivision of the Commonwealth of Virginia, and as such, that it enjoys immunities from certain suits and liabilities provided by the Constitution and laws of Virginia. By entering into this Agreement, Owner does not waive any of its immunities from suit and/or liability.

13.7 COOPERATION WITH GOVERNMENTAL AGENCIES, PUBLIC UTILITIES, ETC.

13.7.1 Contractor's Responsibilities

13.7.1.1 Contractor shall be responsible for making necessary arrangements with governmental departments, public utilities, public carriers, services companies, and corporations owning, or controlling roadways, water, sewer, gas, electricity, telephone, and telegraph facilities, such as pavement, piping, wires, cables, conduits, poles, and guys, including incidental structures connected therewith, that are encountered in the Work in order that such items may be properly shored, supported, protected, or relocated.

13.7.1.2 Contractor shall give proper notices, comply with requirements of such parties in the performance of the Work, permit entrance of such parties on the project in order that they may perform their necessary work.

13.8 RECORDS

13.8.1 Contractor shall at all times through the date of Final Completion maintain Job Records, including, but not limited to, invoices, payment records, daily reports, diaries, logs, instructions, drawings, receipts, subcontracts, purchase orders, vouchers, memoranda, and other financial data and job meeting minutes applicable to the Project, in a manner which maintains the integrity of the documents. Job Records must be retained by Contractor for at least five (5) years after the date of Final Completion of the Project. Within ten (10) days of Owner's request, Contractor shall make such Job Records available for inspection, copying and auditing by the Owner, Architect or their respective

representatives, as Owner's central office.

13.8.2 In the event that an audit by the Owner reveals any errors/overpayments by the Owner, then the Contractor shall refund to the Owner the full amount of such overpayments within thirty (30) days of Owner's demand based upon such audit findings, or the Owner, at its option, reserves the right to deduct such amounts owed to the Owner from any payments due to the Contractor.

ARTICLE 14

TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of ninety (90) days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons performing portions of the Work, for any of the following reasons:

- .1 issuance of an order of a court or other public authority having jurisdiction;
- .2 an act of government, such as a declaration of national emergency, making material unavailable; or
- .3 because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Subparagraph 9.4.1, or because the Owner has not made payment of undisputed sums on an approved Certificate for Payment within the time stated in the Contract Documents.

14.1.2 If one of the above reasons exists, the Contractor may, upon seven (7) additional days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead, profit and damages.

14.1.3 If the Work is stopped for a period of ninety (90) days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the contractor because the Owner has persistently failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Subparagraph 14.1.2.

14.2 TERMINATION BY THE OWNER

14.2.1 If the Contractor is adjudged a bankrupt, or if the Contractor makes a general assignment for the benefit of the Contractor's creditors, or if a receiver is appointed on account of the Contractor's insolvency, or if the Contractor persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if the Contractor fails to make prompt payment to Subcontractors or for materials or labor, or fails to furnish the Owner, upon request, with assurances satisfactory to the Owner evidencing the Contractor's ability to complete the Work in compliance with all the requirements of the Contract, or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction or disregards an instruction, order or decision of the Architect, or otherwise is guilty of a substantial violation of any provision of the Contract, then the Contractor shall be in default, and the Owner may, without prejudice to any other right or remedy and upon written notice to the Contractor and its Surety, take possession of all materials, tools, appliances, equipment, construction equipment and machinery and vehicles, offices and other facilities on the Project site, and all materials intended for the work, wherever stored, and seven (7) days after such notice, may terminate the employment of the Contractor, accept assignment of any or all subcontracts pursuant to Paragraph 5.4, and finish the Work by whatever method the Owner may deem expedient. The Owner shall be entitled to collect from the Contractor all direct, indirect, and consequential damages suffered by the Owner on account of the Contractor's default, including without limitation additional services and expenses of the Architect and other consultants made necessary thereby, attorney's fees, and costs associated with any necessary rebidding of any portion of the Work. The Owner shall be entitled to hold all amounts due the Contractor at the date of termination until all of the Owner's damages have been established, and to apply such amounts to such damages.

14.2.2 If the costs of finishing the Work, including compensation for the Architect's and other consultant's services, attorney's fees, and costs associated with any necessary rebidding of any portion of the Work and any other damages incurred by the Owner and not expressly waived, exceed the unpaid balance of the Contract Sum, then the Contractor and/or its Surety shall pay the difference to the Owner. The amount to be paid to the Owner shall be certified by the Architect upon application. The obligation for payment shall survive termination of the Contract.

14.3 SUSPENSION OR TERMINATION BY THE OWNER FOR CONVENIENCE

14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine or terminate the Contract in its entirety.

14.3.2 An adjustment may be made for increases in the cost of performance of the Contract, including profit on the increased cost of performance, caused by termination, suspension, delay or interruption. No adjustment shall be made to the extent:

- .1 that performance is, was or would have been so suspended, delayed or

interrupted by another cause for which the Contractor is responsible; or

- .2 that an equitable adjustment is made or denied under another provision of this Contract.

14.3.3 Adjustments made in the cost of performance may have a mutually agreed fixed or percentage fee.

14.3.4 In the event of such termination, the Contractor shall be entitled to reimbursement for reasonable demobilization expenses, and for proven unrecoverable loss with respect to materials, equipment, tools and construction equipment and machinery incurred to the date of termination. Such payment shall not cause the Contract Sum to be exceeded. Such payment shall not include overhead and profit for Work not executed.

14.3.5 Upon determination by a Court of competent jurisdiction that termination of the Contractor pursuant to Section 14.2 was wrongful, such termination will be deemed converted to a termination for convenience pursuant to Section 14.3, and Contractor's remedy for wrongful termination shall be limited to the recovery of payments permitted for termination for convenience as set forth in Section 14.3.

END OF GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

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SUPPLEMENTARY GENERAL CONDITIONS

The following supplements modify the "General Conditions of the Contract for Construction". Where a portion of the General Conditions is modified or deleted by the Supplementary General Conditions, the unaltered portions of the General Conditions shall remain in effect.

ARTICLE 13 - MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

13.1.1 Add the following to paragraphs after 13.1.1:

"13.1.2 CERTIFICATION REQUIRED BY VA. CODE § 22.1-296.1 and the following Certificate of Compliance form for VA. CODE § 22.1-296.1."

Effective July 1, 2006, prior to awarding a contract for the provision of services that require the contractor or his employees to have direct contact with students, the Spotsylvania County School Board must require the contractor and any employee of the contractor who will be in the presence of students during regular school hours or during school sponsored activities to enter into this Addendum to such contract and to execute the Certification contained herein. This requirement does not apply to contracts for the provision of goods except contracts for goods involving direct contact with students, such as fittings for uniforms, etc.

**CONTRACT ADDENDUM AND CERTIFICATION
REQUIRED BY VA. CODE § 22.1-296.1 ***

This Addendum shall be attached and made a part of any Contract for the provision of services and shall be fully executed by the parties. Failure of the Contractor to execute this Addendum and the following Certification shall render the Contract null and void.

Contractor Name: _____

Date: _____ School or Department: _____

The School Board of the County of Spotsylvania ("OWNER") and the Contractor are this day entering into a contract and have agreed that this Addendum, duly executed by the parties, is hereby attached and made a part of the Contract.

CERTIFICATION REQUIRED BY VA. CODE § 22.1-296.1

I hereby certify that neither I, nor any employee of _____

NAME OF CONTRACTOR

who will be in the presence of students during regular school hours or during school-sponsored activities, have been convicted of (1) a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; or (2) a crime of moral turpitude.

I further agree that this certification shall be binding throughout the contract period and that I will provide the OWNER with immediate notice of any event which renders this certification untrue.

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Contractor agrees to immediately require any employee who is currently employed or who may be retained or assigned to the performance of this contract after it is awarded, and who will have direct contact with students, to execute and deliver to OWNER an individual certification.

NAME OF CONTRACTOR/EMPLOYEE

SCHOOL BOARD OF THE COUNTY OF SPOTSYLVANIA

CERTIFICATE OF COMPLIANCE

Code of Virginia §22.1-296.1

Prior to the award of a contract or issuance of a purchase order for services that require the Contractor and/or his/her employees to have direct contact with students, SBCS shall require the Contractor and any employee of the Contractor who will be in the presence of students during regular school hours or during school sponsored activities to complete and execute this certification.

The following individuals, who are required by the contract to be in the presence of students during regular school hours or during school-sponsored activities, hereby certify that they have not been convicted of (1) a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; or (2) a crime of moral turpitude:

_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature
_____ Print Name	_____ Signature

Attach additional names to this form if the space is not adequate.

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I agree that this certification shall be binding on the Contractor throughout the contract period and I will provide SBCS with immediate notice of any event which renders this certification untrue. Additionally, I agree to require any employee who is assigned to the performance of this contract after it is awarded, and who will have direct contact with students, to execute and deliver this certification to SBCS before such employee is present on school grounds or during school-sponsored activities.

Company Name

Print Name

Title

Signature

Date

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SECTION 00 82 00 – SPECIAL CONDITIONS

PART 1 - GENERAL

1.1 SAFETY:

- A. Virginia State Occupational Safety and Health Standards apply to this project. The Owner and Engineer shall not be held responsible for enforcement of safety conditions. Particular attention to the following subparts must be observed:
- B. Ladders and Scaffolds:
 - 1. All ladders, scaffolds, or temporary work platforms to be kept in locked storage or removed from the job site when not in use or when unattended.
 - 2. Cranes, Hoists, and Conveyors:
 - a. Cranes are to be guarded, and/or secured at all times when on the job site so as to avoid becoming a hazard to the public, students, and faculty.
 - b. Material hoists, lifts, or conveyors are to be secured so as to avoid becoming a hazard when unattended.
- C. Motor Vehicles and Mechanized Equipment:
 - 1. Keys must be removed and secured from vehicles and other mobile equipment when not in use or unattended.
 - 2. Vehicles and mobile equipment with door locking capability must be locked when not in use.
- D. Demolition:
 - 1. Pay particular attention to safe procedures for demolition and removal of debris so as not to create a hazard to the public, students, and faculty. The disposal of solid waste in open dumps on the Owner's property is prohibited.
 - 2. Additional Safety Requirements:
- E. No firearms, alcohol or drugs may be brought onto the project at any time.
 - 1. All poisonous or otherwise hazardous material will be kept in locked containers when not in use and shall not be left unattended when in use.
 - 2. Contractor's personnel will strictly adhere to all traffic regulations, traffic patterns, and speed limits.
 - 3. If any hot work, including but not necessarily limited to, welding, burning, or torch cutting is required, the Contractor will station a watchman inside the building with proper fire extinguisher equipment. For renovations, the Contractor must notify the Owner prior to work.
- F. No Smoking will be allowed on school property. Violators will be lawfully removed and not allowed on school property for the remainder of construction.

1.2 APPLICABLE STANDARDS AND CODES:

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- A. Wherever reference is made to any published standards, codes or standard specifications, it shall mean the latest standard code, specification or specification of the technical society, organization, or body referred to, which is in effect at the date of Contract Documents. The following is a partial list of typical abbreviations which may be used in the specifications and the organizations to which they refer:

ANSI	-	American National Standards Institute
ASTM	-	American Society for Testing and Materials
UL	-	Underwriters Laboratory
NEC	-	National Electrical Code
VUSBC	-	Virginia Uniform Statewide Building Code

1.3 FIRE PROTECTION:

- A. The Contractor shall not use flammable liquids or gases, stoves, salamanders, tar pots, etc., in and on the building unless approved by the Engineer. Where welding, cutting or burning are necessary, the Owner shall be notified, incombustible shields shall be used, and suitable fire extinguishing equipment shall be maintained nearby. Paints, oils, turpentine and similar materials shall be stored in well ventilated spaces, and no other materials shall be stored therein. The arrangement for storage must have written approval of the Owner. The Contractor shall provide and maintain an adequate number of fire extinguishers throughout the construction period. Free and unobstructed access shall be maintained at all times to fire extinguishing equipment and fire hydrants.
- B. The Contractor shall designate a regular supervisory employee as a Fire Warden, and he shall be responsible for all fire prevention, fire protective matters, and posting of fire protection procedures at the work site.

1.4 PREVENTION OF NUISANCE FROM NOISE, ETC.:

- A. The Contractor shall be responsible for curtailing noise, smoke, dust, fumes or other nuisances resulting from his operations within the limitations set by law and as directed by the Owner or Engineer.

1.5 PERMITS:

- A. Attention is called to license charges and fees pertaining to construction work, as levied by local governments. Such charges and fees, based on the amount of contracted work, are the responsibility of the Contractor. Such permits include, but are not limited to hauling materials and dumping materials. The Contractor is also responsible for paying all taxes applicable to the project.
- B. The contractor will not be required to obtain or pay for a building permit. If one is required, the Owner will obtain it, reimbursing the locality up to \$25.00 for administrative expenses incurred with it's issuance.

1.6 TEMPORARY FACILITIES:

- A. When possible, parking areas for construction employees in the vicinity of the project site will be allocated by the Owner. The Contractor is responsible for informing his employees that they cannot

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park in any location other than the allocated areas. All existing parking regulations will be enforced. Control of vehicles on the site is the responsibility of the Contractor.

1.7 DISPOSAL OF MATERIAL AND DEBRIS:

- A. The Contractor shall remove from the site all demolished material and debris. Disposal of demolished material on the Owner's property shall not be allowed.

1.8 CUTTING AND PATCHING:

- A. The Contractor shall perform all necessary cutting and patching that may be required by the various trades to allow proper installation of work as required by drawings and specifications to complete the work. The Contractor shall restore all cut and patch work to match the existing surrounding work to the satisfaction of the Owner/Engineer. Cutting of the existing structure that in any way may endanger the work, adjacent property, workmen or the public shall not be performed.

1.9 HAZARDOUS MATERIALS:

- A. The Contractor shall provide the Owner with a list of hazardous materials at least 48 hours before bringing any such materials on site.
- B. Refer to Appendix A for asbestos abatement scope of work for this project. Abatement monitoring activities shall be provided by the Owner.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION 00 82 00

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- E1.3.1 ELECTRICAL - FLOOR PLAN - DEMOLITION - PART A
- E1.3.2 ELECTRICAL - FLOOR PLANS - DEMOLITION - PART B & C
- E1.3.3 ELECTRICAL - FLOOR PLAN - DEMOLITION - PART D
- E1.3.4 ELECTRICAL - FLOOR PLAN - DEMOLITION - PART E
- E2.3.1 ELECTRICAL - FLOOR PLAN - PART A
- E2.3.2 ELECTRICAL - FLOOR PLANS - PART B & C
- E2.3.3 ELECTRICAL - FLOOR PLAN - PART D
- E2.3.4 ELECTRICAL - FLOOR PLAN - PART E

THORNBURG MIDDLE SCHOOL DRAWINGS

- E0.4.1 ELECTRICAL - LEGEND, DETAILS, AND DIAGRAMS
- E0.4.2 ELECTRICAL - DETAILS
- E0.4.3 ELECTRICAL - DETAILS
- E1.4.1 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART A
- E1.4.2 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART B
- E1.4.3 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART C
- E1.4.4 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART D
- E1.4.5 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART E
- E1.4.6 ELECTRICAL - SECOND FLOOR PLAN - DEMOLITION - PART D
- E1.4.7 ELECTRICAL - SECOND FLOOR PLAN - DEMOLITION - PART E
- E2.4.1 ELECTRICAL - FIRST FLOOR PLAN - PART A
- E2.4.2 ELECTRICAL - FIRST FLOOR PLAN - PART B
- E2.4.3 ELECTRICAL - FIRST FLOOR PLAN - PART C
- E2.4.4 ELECTRICAL - FIRST FLOOR PLAN - PART D
- E2.4.5 ELECTRICAL - FIRST FLOOR PLAN - PART E
- E2.4.6 ELECTRICAL - SECOND FLOOR PLAN - PART D
- E2.4.7 ELECTRICAL - SECOND FLOOR PLAN - PART E

SPOTSYLVANIA HIGH SCHOOL DRAWINGS

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- E0.5.1 ELECTRICAL - LEGEND, DETAILS, AND DIAGRAMS
 - E0.5.2 ELECTRICAL - DETAILS
 - E0.5.3 ELECTRICAL - DETAILS
 - E1.5.1 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART A
 - E1.5.2 ELECTRICAL - FIRST FLOOR PLAN & MEZZANINE - DEMOLITION - PART B
 - E1.5.3 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART C
 - E1.5.4 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART D
 - E1.5.5 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART E
 - E1.5.6 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART F
 - E1.5.7 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART G
 - E1.5.8 ELECTRICAL - FIRST FLOOR PLAN - DEMOLITION - PART H
 - E1.5.9 ELECTRICAL - FIRST FLOOR PLAN & MEZZANINE - DEMOLITION - PART I
 - E1.5.10 ELECTRICAL – SECOND FLOOR PLAN - DEMOLITION - PART G
 - E1.5.11 ELECTRICAL – SECOND FLOOR PLAN - DEMOLITION - PART H
 - E2.5.1 ELECTRICAL - FIRST FLOOR PLAN - PART A
 - E2.5.2 ELECTRICAL - FIRST FLOOR PLAN & MEZZANINE - PART B
 - E2.5.3 ELECTRICAL - FIRST FLOOR PLAN - PART C
 - E2.5.4 ELECTRICAL - FIRST FLOOR PLAN - PART D
 - E2.5.5 ELECTRICAL - FIRST FLOOR PLAN - PART E
 - E2.5.6 ELECTRICAL - FIRST FLOOR PLAN - PART F
 - E2.5.7 ELECTRICAL - FIRST FLOOR PLAN - PART G
 - E2.5.8 ELECTRICAL - FIRST FLOOR PLAN - PART H
 - E2.5.9 ELECTRICAL - FIRST FLOOR PLAN & MEZZANINE - PART I
 - E2.5.10 ELECTRICAL – SECOND FLOOR PLAN - PART G
 - E2.5.11 ELECTRICAL – SECOND FLOOR PLAN - PART H
- END OF SECTION 00 85 00

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SECTION 01 01 00 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including Supplemental and General Conditions of the Contract, apply to this Section.

1.2 DESCRIPTION:

- A. The "Work" of this contract is titled and is described in the Contract Documents including the plans and specifications and shall be referred to for detailed requirements of the work involved. The "Work" generally includes but is not limited to the following:

The project is generally described as replacement of the existing lighting and switches in Berkeley E.S., Livingston E.S., Riverview E.S., Thornburg M.S., & Spotsylvania H.S. with LED Lighting, low voltage controls, power packs, occupancy sensors and daylight harvesting sensors, reusing power wiring, conduits, and boxes whenever possible. Light fixtures shall be installed in existing ceiling grid and ceiling systems. Minor adjustment shall be allowed to the places for light fixtures to coordinate with immovable objects such as fixed metal ducts and sprinkler heads. The work includes light fixture removal, removal of controls, various miscellaneous work, Electrical work, device programming and repairing ceiling tiles damaged during project along with other items as indicated on the Contract Documents.

1.3 OWNER OCCUPANCY:

- A. The Owner will occupy the sites and all facilities located at the site during the entire period of construction. The Contractor shall cooperate fully with the Owner and any of his representatives during construction operations to minimize conflicts and to facilitate the Owner's usage of the facilities. The Contractor shall perform the work so as not to interfere with the Owner's usage, and other facility operations.

1.4 PHASED CONSTRUCTION:

- A. The Contractor shall schedule the work in such a manner as to complete the work in one area or areas prior to being allowed access to the next scheduled area or areas where work is to be performed. Work shall be scheduled with the Owner's representative prior to start. Contractor shall provide the Owner with a schedule of work prior to commencing any construction.
- B. The Contractor shall not interfere with the operation of equipment and services in those areas of the facility where work is not scheduled and where the Owner, employees and others occupy the facility, facilities, and/or site.
- C. The power to the building shall remain available and lighting in rooms not replaced shall remain operable.

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END OF SECTION 01 01 00

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SECTION 01 01 50 - CONTRACTOR'S USE OF THE PREMISES

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. Work Included: This section applies to situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, sub-Contractors, employees, and field engineers, enter the Owner's buildings.

1.2 QUALITY ASSURANCE:

- A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this section.
- B. Require that all personnel who will enter the Owner's property certify their awareness of and familiarity with the requirements of this section.

1.3 SUBMITTALS:

- A. Submit to the Owner a record of names and identification of all persons who will be entering upon the Owner's property in connection with the work of this Contract.

1.4 CONTRACTOR'S VEHICLES:

- A. Parking for Contractor's vehicles and vehicles belonging to employees of the Contractor, and all other vehicles entering the Owner's property in performance of the work of the Contract shall only use the parking and access route as authorized by the Owner/Engineer.

1.5 SECURITY:

- A. Restrict the access of all persons entering upon the Owner's property in connection with the work to the access route and to the actual site of the work. Coordinate with Owner/Engineer.

1.6 CONTRACTOR'S USE OF EXISTING BUILDINGS:

- A. Use of existing buildings will not be permitted, except in the actual area of the work. The Contractor shall not allow the use of the Owner's toilet facilities by the Contractor's personnel, sub-Contractor personnel, or other persons entering into the Owner's buildings in connection with the work unless otherwise specified. Refer to the "General Conditions."
- B. The Contractor shall keep public areas free from accumulation of waste materials, rubbish, trash, and all forms of construction debris. The Contractor is required to remove all accumulation of waste materials, rubbish, trash, and all forms of construction debris daily.

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1.7 TIME OF WORK:

- A. During the school year work will be allowed during the hours of 7:00 a.m. to 4:00 p.m., Monday through Friday. The Owner will accommodate later work hours and weekends, however keys and access codes will be assigned to the Contractor.
- B. Should it become imperative to perform work beyond the time limits stipulated above, permission from the Owner shall be requested in writing by the Contractor. The Contractor shall obey all local ordinances and shall obtain any waivers necessary for working beyond the time limits specified.

END OF SECTION 01 01 50

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SECTION 01 04 50 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including Supplemental and General Conditions of the Contract, apply to this Section.

1.2 WORK INCLUDED:

- A. All items falling under the "Description of Requirements" below.

1.3 DESCRIPTION OF REQUIREMENTS:

- A. Definition: "Cutting and Patching" includes cutting into or removing existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.
- B. "Cutting and Patching" is performed for coordination of the work, to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed or for other similar purposes.
- C. Cutting and patching performed during the manufacture of products, or during the initial fabrication, erection or installation processes is not considered to be "cutting and patching" under this definition.
- D. Refer to other sections of these specifications for specific cutting and patching requirements and limitations application individual units of work.

1.4 QUALITY ASSURANCE:

- A. Requirements for Structural Work: Do not cut and patch structural work without approval of Architect/Engineer.
- B. Before cutting and patching the following categories of work, obtain the Architect/Engineer's approval to proceed with cutting and patching as described in the procedural proposal for cutting and patching:
 - 1. Miscellaneous structural metals, including lintels, equipment supports, and similar categories of work:
 - a. Structural concrete.
 - b. Foundation construction.
 - c. Steel Framing or decking.
 - d. Bearing and retaining walls.
 - e. Brick and Block wall finishes.
 - f. Painting of wall and structural finishes.

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g. Ceilings and ceiling tiles.

- C. Operational and Safety Limitations: Do not cut and patch operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended, including energy performance, or that would result in increased maintenance, or decreased operational life or decreased safety.
- D. Before cutting and patching the following elements of work, and similar work elements where directed, obtain the Architect/Engineer's approval to proceed with cutting and patching as proposed:
 - 1. Primary operational systems and equipment.
 - 2. Water/moisture/vapor barriers, membranes and flashings.
- E. Visual Requirements: Do not cut and patch work exposed on the building's exterior or in its occupied spaces, in a manner that would, in the Architect/Engineer's opinion, result in lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in substantial visual evidence of cut and patch work. Remove and replace work judged by the Architect/Engineer to be cut and patched in a visually unsatisfactory manner. If possible retain the original installer or fabricator, or another recognized experienced and specialized firm to cut and patch the following categories of exposed work.

1.5 SUBMITTALS:

- A. Procedural Proposal for Cutting and Patching: Where prior approval of cutting and patching is required, submit proposed procedures for this work well in advance of the time work will be performed and request approval to proceed. Include the following information, as application, in the submittal.
- B. Describe nature of the work and how it is to be performed, indication why cutting and patching cannot be avoided. Describe anticipated results of the work in terms of changes to existing work, including structural, operational and visual changes as well as other significant elements.
- C. List products to be used and firms that will perform work.
- D. Give dates when work is expected to be performed.
- E. List utilities that will be disturbed or otherwise be affected by work, including those that will be relocated and those that will be out-of-service temporarily. Indicate how long utility service will be disrupted.
- F. Approval by the Architect/Engineer to proceed with cutting and patching work does not waive the Architect/Engineer's right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 – PRODUCTS

2.1 MATERIALS:

- A. General: Except as otherwise indicated, or as directed by the Architect/Engineer, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or

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cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal-or-better performance characteristics.

PART 3 – EXECUTION

3.1 INSPECTION:

- A. Before cutting, examine the surface to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

3.2 PREPARATION:

- A. Temporary Support: To prevent structural failure, provide temporary support of work to be cut.
- B. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- C. Take precautions not to cut existing pipe, conduit or duct serving the building but scheduled to be relocated until provisions have been made to bypass them.

3.3 PERFORMANCE:

- A. General: Employ skilled workman to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect/Engineer, proceed with cutting and patching at the earliest feasible time and complete work without delay. All patching shall be performed to meet and match the adjacent surfaces.

Cutting: Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer; comply with original installer's recommendations. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use. Fire safe all holes cut through concrete as soon as possible.

- B. Comply with requirements of applicable sections of Division 2 where cutting and patching requires excavating and backfilling.
- C. Patching: Patch with seams which are durable and as invisible as possible. All patching shall meet and match existing surfaces. Comply with specified tolerances for new work. Where feasible, inspect and test patched areas to demonstrate integrity of work. Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

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3.4 CLEANING:

- A. Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering its original condition.

END OF SECTION 01 04 50

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SECTION 01 20 00 - PROJECT MEETINGS

PART 1 - GENERAL:

1.1 WORK INCLUDED:

- A. To enable orderly review during progress of the work, and to provide for systematic discussion of problems, the Contractor will conduct project meetings throughout the construction period as required by the work.
- B. Related Work:
 - 1. The Contractor's relations with his sub-Contractors and material suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of project meetings content.

1.2 QUALITY ASSURANCE:

- A. For those person(s) designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.3 SUBMITTALS:

- A. Agenda Items:

To the maximum extent practicable, advise the Engineer at least 48 hours in advance of the project meetings regarding items to be placed on the agenda.
- B. Minutes:
 - 1. The Contractor will compile minutes of each project meeting, and will furnish one (1) copy to the Engineer and required copies to the Owner.
 - 2. Recipients of copies may make and distribute such other copies as they wish.

PART 2 - EXECUTION:

2.1 MEETING SCHEDULE:

- A. Except as noted below for the Preconstruction Meeting, project meetings will be held as required by the Engineer and Owner.
- B. Coordinate as necessary to establish mutually acceptable schedule for meetings at the convenience of the Owner.

2.2 MEETING LOCATION:

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- A. The Owner shall establish the meeting location. To the maximum extent practicable, meetings will be held at the job site.

2.3 PRECONSTRUCTION MEETING:

- A. Preconstruction Meeting shall be scheduled to be held within than 15 working days after the Bid Opening.

- 1. Provide attendance by an authorized representative of the Contractor and major sub-Contractors.
- 2. The Engineer will advise other interested parties, including the Owner, and request their attendance.

- B. Minimum Agenda:

Data will be distributed and discussed on at least the following items.

- 1. Organizational arrangement of Contractor's forces and personnel, and those of sub-Contractors, material suppliers, and the Engineer.
- 2. Channels and procedures for communication.
- 3. Construction schedule, including sequence of critical work.
- 4. Contract Documents, including distribution of required copies or original Documents and revisions.
- 5. Processing of shop drawings and other data submitted to the Engineer for review.
- 6. Processing of bulletins, field decisions, and change orders.
- 7. Rules and regulations governing performance of the work.
- 8. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.

- C. Preconstruction Conference Format:

The format of the agenda for the Preconstruction Conference shall generally be as follows on the attached form:

PRECONSTRUCTION CONFERENCE FORMAT

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PRECONSTRUCTION CONFERENCE FOR _____

OWNER: Spotsylvania County School Board

PROJECT: _____ JOB ORDER NO.: _____

LOCATION: _____

COMM. NO.: _____ TIME: _____ DATE: _____

AGENDA AND MINUTES

1. GENERAL

- a. Introductions and Registrations of Attendees (sign attached sheet)
- b. Conference Format and Agenda
- c. Agreement, Performance and Payment Bonds and Insurance
- d. Notice to Proceed
- e. Responsibilities of Owner, Contractor, Engineer, and Owner's Inspector

2. PROJECT COMMUNICATION AND CORRESPONDENCE

- a. With Contractor:

Field Superintendent will be: _____

OFFICE _____ FIELD _____ EMERGENCY _____

Company: _____
Street: _____
P.O. Box: _____
Zip: _____
Attention: _____
Telephone: _____

- b. With Engineer:

Project Engineer will be: _____

OFFICE _____ FIELD _____ EMERGENCY _____

Company: _____
Street: _____
P.O. Box: _____
Zip: _____
Attention: _____
Telephone: _____

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(1) For questions, information, etc., Attention:

In the absence of Mr. _____, if necessary, contact first _____ and second _____.

(2) For shop drawings and other submittals, use _____

(3) Discuss submittals and other points on shop drawings, samples, test data, brochures and other submittals.

c. With Owner:

Inspector will be _____

College Coordinator will be _____

Other _____

Project Manager will be _____

(1) Copies of correspondence

(2) Through Owner's Inspector and Engineer

(3) Project Identification

d. With material suppliers and subcontractors

e. Other

3. SCHEDULE, ESTIMATES, CHANGE ORDERS AND TIME EXTENSIONS

a. Project Schedule: CPM, bar chart, other

b. Schedule of Values (Lump Sum Breakdown), No mobilization shall be paid as a schedule of value item on unsecured contracts.

c. Monthly requests for payment

(1) Closing date

(2) Format

(3) Preliminary approval by Owner's Inspector and Engineer; copy to College Coordinator

(4) Work done and materials on hand

(5) Place and projection of materials on hand

(6) Conformance to schedule

d. List of subcontractors and major suppliers

e. Change Orders

(1) Request for Proposal and Response (To be initiated by the Project Manager)

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- (2) Acceptance by Engineer and Owner
- (3) Change Order execution by Contractor, Engineer and Owner
- (4) Time extension, if any
- (5) Not official until fully approved by Contractor and Owner

4. CONSTRUCTION

- a. Manner of conducting the work
- b. Construction plant area
 - (1) On-site
 - (2) Off-site
 - (3) Borrow and Spoil
 - (4) Disposal of wastes
- c. Project sign(s)
- d. Temporary facilities
- e. Traffic maintenance
- f. Safety--public, on-site, personnel
- g. Layout of the work
 - (1) Surveys, systems and equipment
 - (2) Control
- h. Contractor's Quality Control Plan and Owner's Quality Assurance Plan
 - (1) Tests—systems and equipment
 - (2) Certificates - mfg.
 - (3) Construction quality
- i. Special notice

5. PROJECT CLOSE OUT

- a. Final cleanup
- b. Guarantees
- c. Punch lists and final inspections

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- (1) Testing and Certifications
 - (2) O & M instructions and manuals
 - d. Final payment, Affidavits for Payments of Debts and Claims, Consent of Surety, Release or Waiver of Liens
 - e. As-built drawings
 - f. Assessment of Roles in Construction Project
 - g. Other
- 6. ADDED COMMENTS BY OWNER
 - 7. ADDED COMMENTS BY CONTRACTOR
 - 8. ADDED COMMENTS BY PRINCIPAL SUBCONTRACTORS

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2.4 PROJECT MEETINGS:

A. Attendance:

1. To the maximum extent practicable the same person or persons shall represent the Contractor at the project meetings throughout progress of the work.
2. Sub-Contractors, material suppliers, and others may be invited to attend those project meetings in which their aspect of the work is involved.

B. Minimum Agenda:

1. Review, revise as necessary, and approve minutes of previous meetings.
2. Review progress of the work since last meeting, including status of submittals for approval and payment request.
3. Identify problems, which impede planned progress.
4. Develop corrective measures and procedures to regain planned schedule.
5. Complete other current business.

C. Revisions to Minutes:

1. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly scheduled meeting.

END OF SECTION 01 20 00

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SECTION 01 20 60 - GENERAL CONTRACTOR'S WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General, Supplemental Conditions and Special Conditions, apply to work of this section.

1.2 DESCRIPTION:

- A. The intent of this section is to cover certain miscellaneous work, which has not been specified under work of other trades. The Contractor may elect to perform this work, or place all of any part under specific trades.
- B. The Contractor is responsible for including all items of work either shown on the drawings or called for in the specifications. If any item is called for on plans and not specifically designated to a particular section, the Contractor shall determine by whom it will be supplied and installed, as part of the contract amount.
- C. The Engineer will NOT arbitrate differences between Contractor and subcontractor(s).
- D. Carefully study and compare Contract Documents with existing conditions at job site. Report to Engineer, within two (2) weeks of project start date, errors, discrepancies, inconsistencies, and omissions and materials, products, systems, procedures, and construction methods shown or specified which are incorrect, inadequate, obsolete, or unsuitable for actual field conditions discovered, or which Contractor would not warrant as required by the Contract Documents. Do not proceed with Work in areas where errors, discrepancies, inconsistencies, or omissions were found, without Engineer's instructions.
- E. Before ordering materials or doing work at the site, verify dimensions and conditions affecting materials to be ordered or work to be done, to ensure that dimensions shown on Contract drawings accurately reflect actual dimensions. Bring inconsistencies to Engineer's attention and do not proceed without Engineer's instructions.

1.3 EXISTING CONDITIONS:

- A. Contractors Examination of Site:

- 1. By executing Contracts, Contractor and subcontractors represent that they have:
 - a. Visited the sites and made due allowances for difficulties and contingencies;
 - b. Compared Contract Documents with existing conditions and informed themselves of conditions to be encountered, including work by others, if any, being performed; and
 - c. Notified Engineer of ambiguities, inconsistencies, and errors they have discovered within Contract Documents and existing conditions.

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- d. The Contractor accepts the existing conditions of each building and shall make every effort coordinate and fit conduits, raceways, boxes, cabinet, devices and all equipment with existing devices, outlets, equipment, conditions and etc;.
2. Failure to visit the sites and become familiar with conditions shall not relieve Contractor or a subcontractor from furnishing materials or equipment or completing the work in accordance with Contract Documents at no additional cost.
 3. Contractor or subcontractors will not be given extra payment for work related to conditions they can determine by examining the site and Contract Documents.
 4. Contractor or subcontractors will not be given extra payment for work related to ambiguities, inconsistencies, or errors within Contract Documents, or between Contract Documents and existing conditions, when such ambiguities, inconsistencies, or errors are known to Contractor or subcontractor before contract execution unless Contractor or subcontractor has notified Engineer in writing of such condition before execution of Agreement between Owner and Contractor.
 5. Interested parties must obtain telephone clearance from the Engineer and/or Owner before making a site visit.
- B. Access by Contractor to portions of Owner's property beyond the actual area of work under this Contract is denied, except where necessary to perform the work, and then only with specific written approval in each case. Refer to other sections for additional requirements.
- C. Contractor shall accept the site and the existing building in the condition in which they exist at the time Contractor is given access to begin the work.
- D. While work under this Contract is in progress, protect existing buildings, grounds, contents, and occupants, including those on adjacent property, whether private or public, from damage or harm due to the work under this Contract. Damage resulting from cutting or any other form of weakening of the structure by the Contractor and/or subcontractor(s) shall be the responsibility of the Contractor and the Contractor shall bear full liability of any and all resultant damages.
- E. During the term of this Contract, work by others may be done at the sites at Owner's discretion. It is also possible that other contractors will occupy parts of the building or work in the existing building while this Contractor is still on the premises. Access to the site, and within the site to the existing building, is also required for fire-fighting equipment. Owner will continue to operate parts of the existing building and site while work under this Contract is in progress, and will continue to use parking areas and walkways throughout Owner's property. Areas to remain in use include ways designated or later agreed upon by Contractor and Owner.
1. The work of this Contract shall be done, and such temporary facilities and phasing of activities provided so as not to interfere with access to existing facilities to remain in use.
- F. Temporary Storage and Staging: When necessary, provide secure watertight buildings or mobile units with floor above grade and heated where necessary to protect materials from low temperatures. Use space within the building for storage where available and upon approval by Owner's representative. Do not interfere with Work progress. Relocate storage which interferes with a subcontractor's or other Contractor's work, or Work progress. Remove storage buildings and mobile units and stored materials from within buildings when no longer needed.

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1.4 PROGRESS SCHEDULE:

- A. Within seven (7) days of the award of the contract, and before doing work at the site, submit for approval a Progress Schedule for each part of the Work.

1.5 PROJECT CLEAN-UP:

- A. The General Contractor shall be responsible for all subcontractors disposing of all waste materials, cartons, wrappers, etc., to maintain the project site in a state of cleanliness in accordance with good housekeeping practices and local regulations and to the satisfaction of the Owner and Engineer.
- B. The buildings and sites are no smoking areas. Smoking will not be permitted in the buildings or on the sites at any time. Violators will be lawfully removed and not allowed on schedule property for the remainder of construction.

1.6 FINAL CLEAN-UP:

- A. General: At Project completion, to the extent that such areas or surfaces were part of, or were soiled during, the Work under this Contract, give exterior and interior of existing buildings and site, including access ways, and storage, and staging areas, a thorough final cleaning. Remove temporary services, construction equipment, tools and facilities, temporary structures, surplus materials, debris, and rubbish from Owner's property. Put site in neat, orderly condition, ready for use. Leave roof areas, above ceiling areas, equipment rooms, and other spaces clean and free from debris. Clean to normal "clean" condition for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions. Upon completion of "final clean-up" the Engineer shall be notified. Before approval of final payment clean-up shall be to the satisfaction of the Owner and Engineer.

1.7 JOB CONDITIONS:

- A. Use all means necessary to prevent the spread of dust and smoke during the performance of all work on this project. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance.

1.8 CUTTING AND PATCHING:

- A. Contractor shall be responsible for cutting, fitting, and patching of existing work as required to carry out the Work under this Contract.
- B. Unless specified otherwise in that Specifications section, work specified in each specification section includes cutting, fitting, and patching to accommodate the work of other trades, and including cutting, fitting, and patching related to existing construction.
- C. Patch and repair work shall exactly match existing adjacent work in all respects and shall not be obvious as patching. Any patch and repair work found to not exactly match existing adjacent work will be subject to removal and replacement as determined by the Engineer.

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- D. Cutting, fitting, and patching shall not endanger or damage Work under this Contract or existing construction, and shall not be undertaken without permission of Owner or separate contractor whose work is being cut or patched.
- E. Do not cut structural members.

PART 2 - PRODUCTS – NOT USED

PART 3 – EXECUTION

3.1 COORDINATION OF WORK WITH THE OWNER:

- A. To the maximum extent possible, perform all work in, and adjacent to, the existing building with a minimum of interruption of the Owner's normal use.
- B. Owner's use of the premises: The Contractor will have access to all areas with pre-scheduling to coordinate with use of the buildings and site. Buildings may be accessible to Contractor on nights and weekends if allowed by the Owner. Generally, the Owner will maintain occupancy during construction.

3.2 PHASING OF THE WORK:

- A. The work and systems installed under this Contract shall generally follow the order as required by the Owner.

3.3 PROJECT CLOSE-OUT:

- A. Maintain at the site, in good order, one record copy of Drawings, Project Manual, Addenda, Construction Change Directives, Change Orders, and other modifications documents, and submittals.
- B. Legibly mark Drawings and Specifications to show changes to the building and changes required by Change Order or made necessary by other Work.

END OF SECTION 01 20 60

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SECTION 01 21 00 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

- A. This Section specifies administrative and procedural requirements governing handling and processing allowances. Selected materials and equipment, and in some cases, their installation are shown and specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. Additional requirements, if necessary, will be issued by Change Order.
- B. Types of allowances required include the following:
 - 1. Lump sum allowances
- C. Procedures for submitting and handling Change Orders are included in General Conditions.
- D. Allowance prices given do not include Contractor's overhead and profit. All charges by the Contractor for executing allowances, including overhead, profit, handling charges, and supervision shall be excluded from allowance amount, and included in the Base Bid.

1.3 SELECTION AND PURCHASE:

- A. At the earliest feasible date after Contract award, advise the Architect of the date when the final selection and purchase of each product or system described by an allowance must be completed in order to avoid delay in performance of the Work.
- B. When requested by the Architect, obtain proposals for each allowance for use in making final selections; include recommendations that are relevant to performance of the Work.
- C. Purchase products and systems as selected by Architect from the designated supplier.

1.4 SUBMITTALS:

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

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- B. Submit invoices or delivery slips to indicate actual quantities of materials delivered to the site for use in fulfillment of each allowance.

PART 2 – PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES:

LUMP SUM ALLOWANCES

- A. Include an allowance of \$10,000 for Miscellaneous Construction.

3.2 ADMINISTRATION OF LUMP-SUM ALLOWANCES

- A. Allowances required by this Section shall be included in the Base Bid amount.
- B. Allowances required by this Section shall be indicated on the Schedule of Values.
- C. Credit unused amount of Unit Price Allowance (if any) to Owner by Change Order at Project Closeout.

END OF SECTION 01 21 00

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SECTION 01 30 00 - SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work Included:

Provide submittals in electronic (PDF) format required by the Contract Documents; revise and resubmit as necessary to establish compliance with the specified requirements.

B. Related Work:

1. Individual requirements for submittals are described in pertinent sections of these specifications.

C. Work not Included:

1. Submittals not required by the contract documents will not be reviewed by the Engineer.
2. The Contractor may require his sub-Contractors to provide drawings, diagrams, and similar information to help coordinate the work, but such data shall remain between the Contractor and his sub-Contractors and will not be reviewed by the Engineer except where material being provided requires modifications to the locations, piping, or other configurations shown in the contract documents.

1.2 QUALITY ASSURANCE:

A. Coordination of Submittals:

1. Prior to each submittal, the Contractor shall carefully review and coordinate all aspects of each item being submitted.
2. The Contractor shall verify that each item and the submittal for it conform in all respects with the specified requirements.
3. The Contractor shall verify that the material proposed to be incorporated in the work will fit the space provided with connections, etc., as shown, or shall clearly identify the conflicts.
4. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.
5. Materials or equipment ordered, fabricated, or shipped or any work performed until the Engineer returns to the Contractor the submissions herein required marked either "No Exceptions Taken" or "Make Corrections Noted" is at the Contractor's own risk.

B. Substitutions:

1. The Contract is based on the standards of quality established in the Contract Documents. Refer to the General Conditions.
2. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing for this work by the Engineer.

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C. "Or Equal":

1. Where the phrase "or equal," or "or equal as approved by the Engineer," occurs in the Contract Documents, do not assume that the materials, equipment, or method will be approved as equal unless the item has been specifically so approved for this work by the Engineer.
2. The decision of the Engineer shall be final.

PART 2 - EXECUTION

2.1 SUBMITTALS:

A. Refer to the General Conditions for Contractor's responsibilities regarding submittals. The Contractor shall submit submittals in electronic (Adobe PDF) format.

B. Submissions will be stamped by the Engineer in one of the following ways:

"No Exceptions Taken"	No exceptions are taken and subject to compliance with the Contract Documents.
"Make Corrections Noted"	Minor corrections are noted and a re-submittal is not required subject to compliance with the corrections and the Contract Documents.
"Correct and Resubmit "	The submitted material, method or system meets the intent of the specifications, yet has insufficient data to determine compliance with the Contract Documents. Re-submittal is required.
"Rejected"	The submitted material, method or system does not meet the intent of the specifications, or has insufficient data to determine compliance with the Contract Documents.

C. Submission Procedures:

1. If a submission is satisfactory to the Engineer, the Engineer will annotate the submission, "No Exceptions Taken" or "Make Corrections Noted" and transmit copies in electronic format to the Contractor. If a resubmission is required, the Engineer will annotate the submission "Correct and Resubmit" or "Rejected" and transmit copies in electronic format to the Contractor for appropriate action.
2. The Contractor shall revise and resubmit submissions as required by the Engineer until submissions are acceptable to the Engineer.
3. Approval of a working and/or shop drawings by the Engineer will constitute acceptance of the subject matter for which the drawing was submitted and not for any other structure, material, equipment or appurtenances indicated as shown.
4. The Engineer's review of the Contractor's submissions shall in no way relieve the Contractor of any of his responsibilities under the Contract. An approval of a submission shall be interpreted to mean that the Engineer has no specific objections to the submitted material, subject to conformance with the Contract Documents.

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5. Where as-built drawings, record drawings and specifications are available and when provided to the Contractor for use in performing the work, the Contractor shall verify the content of such drawings and specifications, the suitability of their use in performing the work and their accuracy for the purposes in which the Contractor intends to use any record or historical documents which may be obtained. In no case shall the Contractor assume that such documents reflect a true and accurate record of the construction. Acceptance of any such materials, records, and/or drawings shall in no way result in additional cost to the Owner should an error and/or omission in these documents result in additional costs to the Contractor.

2.2 SHOP DRAWINGS:

- A. Scale and Measurements:

Make shop drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the work.

- B. Review Comments:

Review comments of the Engineer will be shown on the reproducible when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes including one set to the Owner's inspector.

2.3 MANUFACTURERS' LITERATURE:

- A. Where the contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review. Clearly mark specific products, model numbers, capacities and options intended to be provided under the Contract.

2.4 IDENTIFICATION OF SUBMITTALS:

- A. Each submittal shall be marked showing all information required for identification and checking. Indicate specification, section number and/or drawings sheet number as required to identify each submittal.
- B. Maintain an accurate submittal log for the duration of the work, showing the current the status of all submittals at all times. Make the submittal log available to the Engineer for his review upon request.

2.5 GROUPING OF SUBMITTALS:

- A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
 1. Partial submittals may be rejected as not complying with the provisions of the Contract.
 2. The Contractor may be held liable for delays so occasioned.

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2.6 TIMING OF SUBMITTALS:

- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
- B. In scheduling, allow at least ten working days for review by the Engineer following his receipt of the submittal.

2.7 ENGINEER'S REVIEW:

- A. Review by the Engineer does not relieve the Contractor from responsibility for errors which may exist in the submitted data.
- B. Revisions:
 - 1. Make revisions required by the Engineer.
 - 2. If the Contractor considers any required revision to be a change, he shall so notify the Engineer as provided in the General Conditions.
 - 3. Make only those revisions directed or approved by the Engineer.

END OF SECTION 01 30 00

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SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work Included:

1. Provide temporary facilities and controls needed for the work including, but not necessarily limited to the following:

B. Temporary utilities such as heat, water, electricity, and telephone.

1. Field office for the Contractor's personnel.
2. Sanitary facilities.

C. Related Work:

1. Except that equipment furnished by sub-Contractors shall comply with the requirements of pertinent safety regulations, such as equipment normally furnished by the individual trades in execution of their own portions of the work are not part of this section.
2. Permanent installation and hookup of the various utilities lines are not described in this section.
3. Acceptance by the Contractor of the use of the Owner's utilities constitutes a release to the Owner of all claims and of all liability to the Contractor for whatever damages resulting from utility outages, including damages from loss of services and voltage variations.

1.2 PRODUCT HANDLING:

- A. Maintain temporary facilities and controls in proper and safe condition throughout progress of the work.

PART 2 - PRODUCTS

2.1 UTILITIES:

A. Water:

1. Provide necessary temporary piping and water supply and, upon completion of the work, remove such temporary facilities. Contractor installed temporary piping shall comply with all applicable codes and be installed in a safe manner.
2. Water, if required for work under the contract, will be furnished by the Owner subject to reasonable use by the Contractor, only to the extent and capacity of present services.

B. Electricity:

1. Provide necessary temporary wiring and, upon completion of the work, remove such

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temporary constructions. Contractor installed temporary wiring shall comply with all applicable codes and be installed in a safe manner.

2. Electricity, if required for the work under the contract, will be furnished by the Owner subject to reasonable use by the Contractor, only to the extent and capacity of present services.

C. Heating:

1. Provide and maintain heat necessary for proper conduct of operations needed in the work and to protect the Owner's facilities from damage from cold weather.
2. The Contractor shall not employ temporary heating devices which use open flames or produce harmful gases in the interior space of the Owner's facilities.

2.2 FIELD OFFICES AND SHEDS

A. Contractor's Facilities:

1. The Contractor may provide a field office building, trailer adequate in size and accommodation for the Contractor's offices, supply, and storage. Field offices shall be located within the work area.

B. Sanitary Facilities:

1. Provide temporary sanitary facilities in the quantity required for use by all Contractor personnel.
2. Maintain all temporary sanitary facilities in a clean, serviceable, and sanitary condition at all times.

2.3 TEMPORARY BARRIERS

- A. Provide and maintain for the duration of construction a temporary barrier of design and type needed to prevent entry onto the work by the public, students, and other persons not connected with the work.

PART 3 - EXECUTION

3.1 MAINTENANCE AND REMOVAL:

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the work.
- B. The Contractor shall insure all temporary facilities, utility connections, and storage offices, trailers, and sheds are maintained in a good state of repair as determined by the Engineer, and in good appearance throughout the duration of the work. Unsafe, poorly maintained facilities shall be corrected or removed at the direction of the Engineer.
- C. Remove such temporary facilities and controls as soon as the progress of the work will permit, or as directed by the Engineer.

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SECTION 01 60 50 – PRODUCTS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General, Supplemental and Special Conditions apply to work of this section.

1.2 DESCRIPTION:

- A. Wherever possible throughout the Contract Documents, one or more materials, trade names, manufacturers' or catalog numbers are specified to establish the minimum standard of quality, durability and efficiency, and NOT to limit competition except where no substitution is specifically identified.
- B. Products not specified may be accepted, if, in the Engineer's opinion, they are equal in quality, durability and efficiency to those specified, and are of a design in harmony with the work as outlined.
- C. Substitutions which require alterations to the design as outlined by the plans and specifications will NOT be approved.
- D. Individual requirements for submittals are described in other sections of these specifications.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS:

- A. **Equivalents:** Manufacturers, trade names and model numbers indicated herein and on drawings shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. Unless definitely stated otherwise and upon complying with the General Conditions, the Contractor may use any article which, in his judgment is equal to that specified and is accepted by the Engineer. Manufacturers listed first in these specifications and on drawings were used as a basis of design. It will be the responsibility of the Contractor to verify all connections, physical sizes, capacities, etc., of all other manufacturer's items, both named or proposed. If the equipment necessitates changes in piping, wiring or other building systems from that indicated on the drawings, the Contractor shall be responsible for all additional costs included and notify other trades. Where such changes are required, detail drawings indicating all required changes shall be submitted for review at the same time the manufacturers drawings are submitted for approval.

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PART 3 - EXECUTION

3.1 SUBMITTALS:

- A. Unless otherwise specified, make all submittals in groups containing all associated items to insure that information is available for checking each item when it is received.
- B. Partial submittals may be rejected as not complying with the provisions of the Contract Documents, and the contractor is strictly liable for all delays so occasioned.
- C. Allow at least fourteen (14) calendar days for review by the Engineer following his receipt of all submittals.
- D. Delays caused by tardiness in receipt of submittals will not be an acceptable basis for any extension of the contract completion date.
- E. Review by the Owner is not to be construed as a complete check, but only that the general method of construction and detailing is satisfactory. Review does not relieve the Contractor from complying with all requirements of the Contract Documents, or from any errors which may exist.

END OF SECTION 01 60 50

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SECTION 01 64 00 - PRODUCT HANDLING

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work Included:

1. Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this section.

B. Related Work:

1. Additional procedures also may be prescribed in other sections of these specifications and the "General Conditions."

1.2 QUALITY ASSURANCE:

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURER'S RECOMMENDATIONS:

- A. Except as otherwise approved by the Engineer, determine and comply with the manufacturer's recommendations on product handling, storage and protection.

1.4 PACKAGING:

- A. Deliver products to the job site in the manufacturer's original container, with labels intact and legible.

1. Maintain packed materials with seals unbroken and labels intact until time of use.
2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
3. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacturer, grade, quality, and other pertinent information.

1.5 PROTECTION:

- A. Protect finished surfaces, including jams and soffits of opening used as passageways, through which equipment and materials are handled.
- B. Provide protection for finished floor surfaces in all areas prior to allowing equipment or materials to be moved over such surfaces.
- C. Maintain finished surfaces clean, unmarred, and suitably protected until the work is accepted by the Owner.

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1.6 REPAIRS AND REPLACEMENTS:

- A. In the event of damage, promptly make replacements and repairs to the approval of the Engineer and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the contract time of completion.

1.7 DELIVERY AND STORAGE:

- A. The Contractor shall be responsible for making all arrangements for the delivery, unloading, receiving, and storage of materials. The Owner shall not assume any responsibility for receiving, storage or unloading of shipments.

END OF SECTION 01 64 00

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SECTION 01 70 00 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General, Supplemental Conditions and Special Conditions sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

- A. Definitions: Project closeout is the term used to describe certain collective project requirements, indicating completion of the Work that is to be fulfilled near the end of the Contract time in preparation for final acceptance and occupancy of the Work by the Owner, as well as final payment to the Contractor and the normal termination of the Contract.
- B. Specific requirements for individual units of work are included in the appropriate sections of these specifications.
 - 1. Time of closeout is directly related to "Substantial Completion"; therefore, the time of closeout may be either a single time period for the entire Work or a series of time periods for individual elements of the Work that have been certified as substantially complete at different dates. This time variation, if any, shall be applicable to the other provisions of this section.

1.3 PREREQUISITES TO SUBSTANTIAL COMPLETION:

- A. General: Complete the following before requesting the Engineer's inspection for certification of substantial completion, either for the entire Work or for portions of the Work. List known exceptions in the request.
- B. In the progress payment request that coincides with, or is the first request following, the date substantial completion is claimed, show either 100% completion for the portion of the Work claimed as "substantially complete", or list incomplete items, the value of incomplete work, and reasons for the Work being incomplete.
 - 1. Include supporting documentation for completion as indicated in these Contract Documents.
- C. Submit a statement showing an accounting of changes to the Contract Sum.
- D. Advise Owner of pending insurance change-over requirements.
- E. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.
- F. Obtain and submit releases enabling Owner's full, unrestricted use of the Work and access to services and utilities. Where required, include occupancy permits, operating certificates and similar releases.

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- G. Deliver tools, spare parts, extra stocks of material and similar physical items to the Owner.
- H. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities and services from the project site, along with construction tools and facilities, mock-ups, and similar elements.
- I. Complete final cleaning up requirements, including touch-up painting of marred surfaces.
- J. Touch-up and otherwise repair and restore marred exposed finishes.
- K. Inspection Procedures: Upon receipt of Contractor's request for inspection, the Engineer will either proceed with inspection or advise Contractor of unfulfilled prerequisites.
 - 1. Following the initial inspection, the Engineer will either prepare the certificate of substantial completion, or will advise Contractor of work which must be performed before the certificate will be issued. The Engineer will repeat the inspection when requested and when assured that the Work has been substantially completed. If upon final inspection and a subsequent rejection, items which are not completed as directed and to the satisfaction of the Engineer shall result in the Contractor being required to reimburse the Engineer at a rate of \$126.00 per hour for subsequent inspections.
 - 2. Results of the completed inspection will form the initial "punch-list" for final acceptance.

1.4 PREREQUISITES TO FINAL ACCEPTANCE:

- A. General: Complete the following before requesting the Engineer's final inspection for certification of final acceptance, and final payment as required by the General Conditions. List known exceptions, if any, in request:
 - 1. Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 - 3. Submit a certified copy of the Engineer's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by the Engineer.
 - 4. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

1.5 RECORD DOCUMENT SUBMITTALS:

- A. General: Specific requirements for record documents are indicated in the individual sections of these specifications. (See also Section 017200 PROJECT RECORD DOCUMENTS for more detailed requirements.) Other requirements are indicated in the General Conditions. General submittal requirements are indicated in "submittals" sections.
 - 1. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Engineer's reference during normal working hours.

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- B. Record Drawings: Maintain a record set of blue or black line white-prints of contract drawings and shop drawings in a clean, undamaged condition. Mark-up the set of record documents to show the actual installation where the installed work varies substantially from the work as originally shown. Mark whichever drawing is most capable of showing the actual "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at the corresponding location on the working drawings. Give particular attention to concealed work that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work.
 2. Mark-up new information, which is known to be important to the Owner, but for some reason was not shown on either contract drawings or shop drawings.
 3. Note related change-order number where applicable.
 4. Upon completion of the Work, the Contractor shall submit "As-Built Drawings"; two sets of blue line and one set of reproducible sepias; indicating all changes or deviations from the Contract Documents. The drawings should indicate all the information from the Record Drawings.)
- C. Record Specifications: Maintain one complete copy of the Project Manual, including specifications and addenda, and one copy of other written construction documents such as change orders and similar modifications issued in printed form during construction. Mark these documents to show substantial variations in the actual work performed in comparison with the text of the specifications and modifications as issued. Give particular attention to substitutions, selection of options and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable.
1. Upon completion of the Work, submit record specifications to the Engineer for the Owner's records.
- D. Record Product Data: Maintain one (1) copy of each product data submittal. Mark these documents to show significant variations in the actual Work performed in comparison with the submitted information. Include both variations in the products as delivered to the site, and variations from the manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and specifications.
1. Upon Completion of mark-up, submit complete set of record product data to the Engineer for the Owner's records.
- E. Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind data into individual binders properly identified and indexed. Bind each set of data in a heavy-duty 2-inch, 3-ring vinyl-covered binder, with pocket folders for folded sheet information. Mark the appropriate identification on both front and spine of each binder. (See also Section 017300 OPERATION AND MAINTENANCE DATA for more detailed requirements.)
1. Include the following types of, but not limited to, information in operation and maintenance manuals:
 - Emergency instructions.
 - Spare parts listing.
 - Copies of warranties.

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Wiring diagrams.
Recommended "turn-around" cycles.
Inspection procedures.
Shop drawings and product data.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES:

- A. General Operating and Maintenance Instructions: Arrange for each installer of operating equipment and other work that requires regular or continuing maintenance, to meet at the site with the Owner's personnel to provide necessary basic instruction in the proper operation and maintenance of the entire Work. Where installers are not experienced in the required procedures, include instruction by the manufacturer's representatives. The instruction sessions shall be arranged such that Owner's personnel can attend one session and be completely trained for all items of Work. Multiple sessions to completely train personnel will not be acceptable and the Contractor will be liable for the additional lost time of the personnel, as well as the Engineer.

1. As part of this instruction, provide a detailed review of the following items:

Maintenance manuals
Record documents
Spare parts and materials
Tools
Identification systems
Control sequences
Hazards
Cleaning
Warranties, bonds, maintenance agreements and similar continuing commitments.

2. As part of this instruction for operating equipment, demonstrate the following procedures:

Operation of all systems
Trouble shoot systems
System settings

3.2 FINAL CLEANING:

- A. General: Special cleaning requirements for specific units of Work are included in the appropriate sections of these Specifications. General cleaning during the regular progress of the Work is required by the General Conditions and is included under section "General Contractor's Work".
- B. Cleaning: Provide final cleaning of the Work at the time indicated. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial building cleaning and maintenance program. Comply with the manufacturer's instructions for operations.

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1. Complete the following cleaning operations before requesting the Engineer's inspection for certification of substantial completion.
 2. Remove labels which are not required as permanent labels.
 3. Wipe surfaces of all equipment clean. Remove excess dirt, grease, finger prints and other substances.
 4. Clean the project site, of rubbish, litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, spills, and other foreign deposits.
- C. Pest Control: Rid new work of rodents, insects, and other pests.
- D. Removal of Protection: Except as otherwise indicated or requested by the Engineer, remove temporary protection devices and facilities which were installed during the course of the work to protect previously completed work during the remainder of the construction period.
- E. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at the site. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile or other harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
1. Where extra materials of value remaining after completion of associated work have become the Owner's property, dispose of these to the Owner's best advantage as directed.

END OF SECTION 01 70 00

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SECTION 01 71 00 - CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work Included:

1. Throughout the construction period, maintain the buildings and sites in a standard of cleanliness as described in this section.

B. Related Work:

1. In addition to standards described in this section, comply with the requirements for cleaning as described in pertinent other sections of these specifications and the "General Conditions."

1.2 QUALITY ASSURANCE:

- A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being met.

- B. In addition to the standards described in this section, comply with pertinent requirements of government agencies having jurisdiction.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT:

- A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.2 COMPATIBILITY:

- A. Use only cleaning materials and equipment, which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING:

A. General:

1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.

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2. Do not allow accumulation of scraps, debris, waste material, and other items not required for construction of this work.
3. At least once per day, and more often if necessary, completely remove all scraps, debris, and waste materials from the job site.
4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection, and protection of the ecology.

B. Site:

1. Daily, and more often if necessary, inspect the site and pick up all scraps, debris, and waste material. Remove such items to the place designated for their storage.
2. Maintain the site in a neat and orderly condition at all times.

C. Structures:

1. Daily, and more often if necessary, inspect the structures and pick up all scraps, debris, and waste material. Remove such items to the place designated for their storage.
2. Daily, and more often if necessary, sweep interior spaces clean in the area of work.
 - a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by the use of reasonable effort.
3. As required preparatory to installation of succeeding materials, clean the structure or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the necessary cleanliness.

3.2 FINAL CLEANING:

A. "Clean," for the purpose of this article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.

B. Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scraps, debris, and waste. Conduct final progress cleaning as described in Article 3.01 above.

C. Site:

1. Unless otherwise specifically directed by the Engineer, broom clean paved areas on the site and public paved areas adjacent to the site.
2. Completely remove resultant debris.

D. Structures:

1. Interior:
 - a. Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
 - b. Remove all traces of splashed materials from adjacent surfaces.
 - c. Remove paint droppings, spots, stains, and dirt from all finished surfaces.

E. Schedule of Final Cleaning:

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1. Schedule final cleaning as approved by the Engineer to enable the Owner to accept a completely clean work.

3.3 CLEANING DURING OWNER'S OCCUPANCY:

- A. The Owner will occupy the work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning shall remain the responsibility of the Contractor for that portion of the work not occupied by the Owner.

END OF SECTION 01 71 00

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SECTION 01 72 00 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work Included:

1. Throughout progress of the work, maintain an accurate record of changes in the Contract Documents, as described in this section. Recorded changes shall hereinafter be referred to as "As-Built Drawings".
2. Upon completion of the work, deliver the recorded changes to the Engineer for preparation of a set of Project Record Documents, as described in this section. Cross reference all changes to addenda, change orders, etc.

B. Related Work:

1. Contractor's attention is directed to the "General Conditions" for "As-Built Drawings" to be maintained by the Contractor.
2. Other requirements affecting the Project Record Documents may appear in pertinent other sections of these specifications.

1.2 QUALITY ASSURANCE:

- A. Assign the responsibility for maintenance of As-Built Drawings to one person on the Contractor's staff as approved by the Engineer.

B. Accuracy Of Records:

1. Thoroughly coordinate changes within the As-Built Drawings, making adequate and proper entries on each page of the specifications and each sheet of drawings and other documents where such entry is required to show the change properly.
2. Accuracy of records shall be such that future searches for items shown in the contract documents may rely reasonably on information obtained from the approved As-Built Drawings.

- C. Make entries within 24 hours after receipt of information that the change has occurred.

1.3 SUBMITTALS:

- A. The Engineer's approval of the current status of As-Built Drawings is a prerequisite to the Engineer's approval of requests for progress payment and request for final payment under the Contract.

- B. Prior to submitting each request for progress payment, secure the Engineer's approval of the current status of the As-Built Drawings.

- C. Prior to submitting request for final payment, submit the final As-Built Drawings to the Engineer and secure his approval.

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1.4 PRODUCT HANDLING:

- A. Maintain the job set of As-Built Drawings completely protected from deterioration and from loss and damage until completion of the work and transfer of all recorded data to the final As-Built Drawings.
- B. In the event of loss of the recorded data, use means necessary to again secure the data to the Engineer's approval.
 - 1. Such means shall include, if necessary in the opinion of the Engineer, removal and replacement of concealed materials.
 - 2. In such case, provide replacements to the standards originally required by the Contract Documents.

1.5 AS-BUILT DRAWINGS:

- A. Job Set: Promptly following receipt of the Owner's Notice to Proceed, secure from the Engineer at no charge to the Contractor one complete set of all documents comprising the Contract.
- B. Final As-Built Drawings: At a time nearing the completion of the work, deliver to the Engineer one complete set of As-Built Drawings.

1.6 MAINTENANCE OF JOB SET:

- A. Immediately upon receipt of the job set described in this section, identify each of the documents with the title, "AS-BUILT DRAWINGS - JOB SET."
- B. Preservation of Documents:
 - 1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set suitable to the Engineer.
 - 2. Do not use the job set for any purpose except entry of new data and for review by the Engineer, until start of transfer of data to the final Project Record Documents.
 - 3. Maintain the job set at the site of work as that site is designated by the Engineer.
- C. Making Entries on Drawings:
 - 1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required. Colors that are not reproducible using standard printing procedures shall not be used.
 - 2. Date all entries.
 - 3. Call attention to the entry by drawing a box or other shape in a manner that avoids confusion with the original shapes and elements on the drawing around the area or areas affected.
 - 4. In the event of overlapping changes, use different colors for the overlapping changes.
- D. Make entries in the pertinent other documents as approved by the Engineer.
- E. Conversion of Schematic Layouts:

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1. In some cases on the drawings, arrangements of conduits, circuits, piping, and similar items, are shown schematically and are not intended to portray precise physical layout.
 - a. Final physical arrangement is determined by the Contractor, subject to the Engineer's approval.
 - b. However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the drawings.
2. Show on the job set of Record Drawings, by dimension, the centerline of each run of items such as described in this section.
 - a. Clearly identify the item by accurate note such as "cabinet", "rack", "fire alarm panel", "NAC panel" and the like.
 - b. Show, by symbol or note, the vertical location of the item ("in ceiling plenum," "exposed," and the like).
 - c. Make all identification sufficiently descriptive that it may be related reliably to the specifications.
3. The Engineer may waive the requirements for conversion of schematic layouts where, in the Engineer's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the Engineer.

1.7 CHANGES SUBSEQUENT TO ACCEPTANCE:

- A. The Contractor has no responsibility for recording changes in the work subsequent to final completion, except for changes resulting from work performed under warranty.

END OF SECTION 01 72 00

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SECTION 01 73 00 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 DESCRIPTION:

A. Work Included:

1. To aid the continued instruction of operating and maintenance personnel, and to provide a source of information regarding the products incorporated into the work, furnish and deliver the data described in this section and in pertinent other sections of these specifications.

B. Related Work:

1. Required contents of submittals also may be amplified in pertinent other sections of these specifications and the "General Conditions".

1.2 QUALITY ASSURANCE:

- A. In preparing data required by this section, use only personnel who are thoroughly trained and experienced in the operation and maintenance of the described items, completely familiar with the requirements of this section, and skilled communicating the essential data.

1.3 SUBMITTALS:

- A. Unless otherwise directed in other sections, or in writing by the Engineer, submit three copies of the final manual to the Engineer for approval prior to indoctrination of operation and maintenance personnel.

PART 2 - PRODUCTS

2.1 INSTRUCTION MANUALS:

- A. Where instruction manuals are required to be submitted under other sections of these specifications, prepare in accordance with the provisions of this section.

B. Format:

1. Size: 8-1/2" x 11"
2. Paper: White bond, at least 20 lb. weight.
3. Text: Typed (Hand printed or written is not acceptable)
4. Drawings: 11" x 8-1/2" preferable; bind in with text; foldouts are acceptable; larger drawings are acceptable if folded to fit within the manual and provide a drawing pocket inside rear cover or bind in with text.

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5. Fly Sheets: Separate each portion of the manual with neatly prepared Fly Sheets or tabbed index sheets briefly describing the contents of the ensuing portion. Fly sheets or index tabs may be in color.
 6. Binding: Use heavy-duty plastic covers with binding mechanism concealed inside the manual; 3-ring binders are required. All binding is subject to the Engineer's approval.
- C. Provide front and back covers for each manual, using durable plastic material and clearly identified on the front cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS

FOR

(Item/system name and description)

(Name and address of Contractor and sub-contractor)

(General subject of this manual)

(Name and address of Engineer)

(Engineer's approval and date approved)

(BID NUMBER)

- D. Contents:
1. Neatly prepared and typewritten detailed table of contents.
 2. Complete instructions regarding operation and maintenance of all equipment.
 3. Complete nomenclature of all parts of all equipment.
 4. Complete nomenclature and part number of all replaceable parts, name and address of nearest vendor, and all other data pertinent to procurement procedures.
 5. Copy of all guarantees and warranties issued.
 6. Manufacturer's bulletin, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturers' data with which this installation is not concerned.
 7. Such other data as required in pertinent sections of these specifications.

PART 3 - EXECUTION

3.1 INSTRUCTION MANUALS:

- A. Revisions:
1. Following the indoctrination and instruction of operation and maintenance personnel, review all proposed revisions of the Manual with the Engineer.

END OF SECTION 01 73 00

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SECTION 02 06 00 – SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

- A. The extent of demolition work is shown on the drawings.

1.3 SUBMITTALS

- A. Schedule: Submit proposed methods and operations of building demolition to Engineer for review prior to start of work. Include in schedule coordination for ceiling to be removed for access to ceiling voids.
- B. Provide a detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations. Demolition consist of removing light fixtures, disconnection power circuits, removing lighting switches, removing ceiling tiles to gain access to ceiling voids.

1.4 JOB CONDITIONS

- A. Condition of Structures: Owner assumes no responsibility for actual condition of structures to be demolished.
- B. Conditions existing at time of inspection for bidding purposes will be maintained by Owner in so far as practicable. However, variations within structure may occur due to current construction.
- C. Partial Removal:
 - 1. All ceiling tiles removed shall be stored for reuse.
 - 2. All ceiling tiles damaged by this work shall be replaced by the Contractor.
 - 3. Existing building power shall remain in operation except as needed to remove light fixtures.

PART 2 – PRODUCTS –NOT USED

PART 3 - EXECUTION

3.1 DEMOLITION

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A. Ceiling Demolition:

1. Store removed ceiling tiles for reuse.
2. All ceiling tiles damaged by this work shall be replaced by the Contractor.
3. Secure power circuit for reuse.
4. Rewire switching to allow for low voltage lighting controls.

3.2 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Remove from damage ceiling tiles, rubbish, and other materials resulting from ceiling tile removal operations.
- B. Removal: Transport and damage ceiling tile materials removed and dispose of offsite. The disposal of solid wastes in open dumps is prohibited.

3.3 ALTERATIONS, PATCHING AND REPAIRS

- A. General: Where cutting, alteration, removal, or repair of such materials is indicated as part of the Work, or is necessary to permit performing the Work, and where existing materials are damaged during the Work, patch and repair using specified products. Finish to match existing adjacent work. Patches and repairs shall not be discernible from normal viewing distance.
- B. Removal of some materials and items is specified in other specifications section. Store materials and items to be reused in a safe location until reinstalled and assume responsibility for safe storage and handling.
- C. Repair of Materials and Items to be Re-used: Satisfactorily repair materials and items to be reused that have become damaged during Contractor's operations, or provide new equal products at no additional cost. Provide missing parts necessary to complete each installation.
- D. Patching Coordination: Coordinate patching involving various trades whether or not specifically mentioned in the Contract Documents.
- E. Restoring Existing Finishes:
1. Restore wall, floor and ceiling finishes damaged or defaced because of cutting, patching, demolition alteration, or repair work to condition equal to that before Work under this Contract started.
 2. Where alteration, repair, or removals expose damaged or unfinished surfaces or materials, repair and finish or refinish such surfaces, or remove the damaged or unfinished surfaces or materials and provide new, acceptable, matching surfaces or materials or acceptable salvaged materials, to make continuous areas and surfaces uniform.
- F. Standards:
1. Perform new work and restore and refinish existing work to comply with applicable requirements of the specifications, except as follows:

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- a. Materials for use in repair of existing surfaces but not otherwise specified shall conform to the highest standards of the trade involved and be in accordance with approved industry standards, as required to match the existing surface.
- b. Workmanship for repair of existing materials not otherwise specified shall conform to similar workmanship existing in or adjacent to space where alterations are to be made.
- c. Reinstall salvaged items where no similar items exist, in accordance with the highest standards of trade involved and in accordance with approved Shop Drawings.
- d. Any materials not exposed to view and which are disturbed for the installation of wire or pipe hangers, etc. shall be sealed to match the existing material thickness, but are not required to be finished. No holes shall be left exposed.

3.4 CUTTING HOLES

- A. The trades shall neatly cut holes where required in existing construction for the installation of their respective equipment and cables.
- B. The various trades shall furnish and install all sleeves, liners, etc., as necessary.
- C. Patching Holes: Properly close and patch holes and openings in existing wall, ceiling and roof surfaces resulting from alteration work, and those shown to be filled, to match adjacent undisturbed surfaces.

END OF SECTION 02 06 00

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SECTION 09 52 00 - ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division-1 Specification sections, apply to work of this section.

1.2 WORK INCLUDED

- A. Remove and replace existing ceilings as require too accomplish the Work of this Contract. Where existing ceilings are damaged, replacement shall be in accordance with this Section.

1.3 QUALITY ASSURANCE

- A. For actual fabrication and installation of suspended acoustical ceiling systems, use only personnel who are thoroughly trained and experienced in the fabrication and erection of the selected systems.

1.4 PRODUCT HANDLING

- A. Use all means necessary to protect suspended acoustical ceiling materials before, during and after installation, and to protect installed work and materials of other trades.
- B. In the event of damage, immediately make all repairs and replacements necessary to the Engineer's approval and at no additional cost to the Owner.
- C. Handle all products of the ceiling system with the wearing of clean white gloves to prevent the soiling of the product.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All acoustical tile and panels are to have a flame-spread rating of 0-25 (ASTM E-84).
- B. Furnish tiles and panels produced by one manufacturer only who is a member of AIMA.

2.2 ACOUSTICAL CEILING PANELS

- A. Match existing units by size, profile, texture, color, material, and manufacturer.

2.3 SUSPENSION SYSTEM

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- A. Use a "T" grid suspension system of modular size, profile, and material to match existing systems.
- B. System is to consist of all wire, rod or strip hangers, wall angles, support "Ts", cross "Ts", clips, etc. as approved by the grid manufacturer and installed in accordance with the manufacturer's specifications.
- C. Use edge molding channels fabricated of 24 gauge, cold-rolled steel. Furnish all required trim, molding, etc. to make a complete installation.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Prior to all work of this section, carefully inspect the installed work of all other trades, and verify that all such work is complete to the point where the reinstallation or replacement may properly begin.
- B. Coordinate ceiling grid layout with existing ceilings and new and existing ceiling devices.
- C. Examine electrical extent of new work. Do not begin work in a given space until electrical work has been completed of the areas will be occupied by the owner.
- D. In the event of discrepancy, immediately notify the Engineer. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 INSTALLATION OF EXPOSED 'T' GRID

- A. Space hanger wires a maximum of 4' on centers along main runners.
- B. Suspend hangers only from concrete structural joists and beams. Use power driven or electrical driven eye pins to secure to concrete structure. Do not allow hangers to touch, or be suspended from, any mechanical or electrical equipment or supports.
- C. Accurately level all main runners. Space main runners a maximum of 4' on centers.
- D. Space cross "T" members and secure to main runners and wall angles.
- E. Securely anchor all wall angle members in place. Provide and install hold down clips for all ceiling boards as required by Code.
- F. Make all grid level within a tolerance of 1 in 500, and straight within a tolerance of 1 in 1000.

3.3 INSTALLATION OF ACOUSTICAL CEILING PANELS

- A. Install with all panels in alignment and exposed surfaces smooth and level. Fit pieces neatly to each other and to other surfaces. Cut all pieces neatly.
- B. Rest ceiling panels on the flanges of the inverted "Ts" with board units abutting surfaces and supported at walls by wall angles.

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- C. Small pieces of tile are to be "clipped" into place.

3.4 CLEAN-UP

- A. Complete remove all fingerprints and traces of soil from the surfaces of grid and acoustical ceiling boards, using only those cleaning materials specifically recommended for the purpose by the manufacturers of the materials cleaned.

END OF SECTION 09 52 00

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SECTION 26 05 00 – COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Every item of labor, material, devices and appurtenances for installing a complete Electrical System and other related systems included in Division 26 of the Specifications.
- B. Section 26 05 00 – Common Work Results For Electrical
- C. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables
- D. Section 26 05 23 – Control Voltage Electrical Power Cables
- E. Section 26 05 26 – Grounding And Bonding For Electrical Systems
- F. Section 26 05 33 – Raceway And Boxes For Electrical Systems
- G. Section 26 05 36 – Cable Management For Electrical Systems
- H. Section 26 05 53 – Identification For Electrical Systems
- I. Section 26 09 23 – Lighting Control Devices
- J. Section 26 50 00 – Lighting

1.3 RELATED WORK:

- A. General: See all other portions of these Contract Documents and apply to those portions of work, relating to Electrical Work, the same as if repeated herein in its entirety. The Division 26 Electrical Trade shall allow for wiring and controlling all equipment requiring electrical connections as described therein even though not shown on the electrical drawings. The Division 26 Electrical Trade shall provide and install all conduits, standard boxes and grounding for system as required and needed.

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1.4 WORK NOT INCLUDED:

- A. Certain electrical equipment will be provided in-place as specified under other Divisions of these Contract Documents and other pieces of equipment such as operating controls, etc., will be provided f.o.b. (freight on board) premises, which shall be mounted and connected to electrically under Division 26.

1.5 DRAWINGS:

- A. Where conduit, equipment, devices and other electrical appurtenances are shown on the drawings, the general arrangement of such items on the electrical drawings shall be followed as closely as actual building construction and the work of other trades will permit. Because of the small scale of the electrical drawings, it is not feasible to indicate all offsets, fittings and accessories which may be required. The Contractor shall investigate the construction conditions affecting the work and provide fittings and accessories as required to meet actual conditions.

1.6 QUALITY ASSURANCE:

- A. Equipment and material used in the project shall be new and undamaged. The electrical installation shall fit into the space allotted and shall allow adequate, acceptable, clearances for entry, servicing, safety, and maintenance. The Contractor shall coordinate the work to ensure that the equipment may be moved into place without altering building components or other installations. All Electrical work shall be performed by a Commonwealth of Virginia Class-A licensed Electrical Contractor whose technicians, mechanics, or tradesmen shall be skilled in the trade involved. All electrical work shall be performed under the direct supervision of an electrician with a locally recognized and accepted master license.
- B. Equipment and material in existing installations may be reused where specifically indicated on the drawings.

1.7 REFERENCES:

- A. The complete installation and all materials and equipment under Division 26 shall conform to the Virginia Uniform Statewide Building Code, current issue, including all applicable portions of the National Electrical Code (NEC) and all other governing codes and regulations.
- B. All equipment used shall bear the Underwriters Laboratory (U.L.) label for the intended application, or other organizations label if acceptable to the Authority having jurisdiction and concern with product evaluation.
- C. In addition, the following codes, standards, and regulations shall apply to the complete installation and all materials and equipment. These are referred to by their accompanying abbreviations.
- D. National Electrical Code (NFPA No. 70) 2014 NEC
- E. National Electrical Manufacturers Association NEMA
- F. Underwriters Laboratories, Inc. UL

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- G. Telecommunications Building Wiring Standards TIA/EIA
- H. All Systems' Installation Certification Compliance Documents for Installing Trades
- I. National Fire Protection Association NFPA
- J. Uniform Federal Accessibility Standards UFAS
- K. Americans with Disabilities Act Accessibility Guideline ADAAG

L. The above standards are intended as a minimum and shall be exceeded if required by the Contract Documents. In the event information contained in the Contract Documents conflicts with one of the above mentioned codes, the codes shall take precedence.

1.8 PERMITS, LICENSES, TAXES AND INSPECTION CERTIFICATES:

- A. All permits, bonds, licenses, electrical connection fees, inspection fees and taxes required for the execution of the work shall be obtained and paid for by the Contractor. Under each phase of the Electrical work the Contractor shall furnish three copies of certificates of final acceptance to the Engineer from any inspection authority having jurisdiction.
- B. At the completion of the job, provide the Engineer with three (3) copies of an electrical inspection certificate from the local Electrical Inspector, if such inspection is provided and/or required by the locality.

1.9 REGULATIONS AND STANDARDS:

- A. The completed installation and all materials and equipment shall conform to local ordinances and codes, other regulations and standards listed herein or in related sections. These are intended as a minimum and shall be exceeded if required by the specifications or Drawings. In the event of a conflict between the codes, standards, or regulations, and information contained in the Contract Documents, the applicable code, standard, or regulation shall take precedence.

1.10 SUBMITTALS:

- A. Submit shop drawings, product data and samples in accordance with Division 1 for all items as specified in related sections of these specifications. One (1) electronic (PDF) copy of the submittal shall be submitted. One (1) electronic (PDF) copy of the submittal will be returned to the Contractor. If additional copies are required they will be the responsibility of the Contractor. Where drawings are submitted, the Contractor shall submit a minimum of two (2) sets of full scale prints. One (1) copy will be marked and returned to the Contractor, and the Contractor shall be responsible for all additional copies required for his use. All submittal data shall be correctly identified to show project name, and the exact model, style or size of item being submitted. Improperly identified submittals will not be reviewed by the Engineer. Each item submitted for review shall bear the Subcontractor's stamp which states that they have reviewed the submission, that it is complete, and that in their opinion it meets the contract requirements. Contractor's stamp shall identify the paragraph and page number for which the submittal is being made. Any submission which has not been reviewed and stamped by the Electrical Trade will not be reviewed by the Engineer. No reviews prior to award of Contract will be considered or accepted.

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- B. Shop drawings, samples, diagrams, catalog data and such other data necessary to fully describe and substantiate compliance with these contract documents shall be submitted as follows:
1. All the equipment and materials where submissions are specifically required by other Divisions of these Contract Documents.
 2. All the equipment and materials that are indicated with an [S] behind the product title. This shall include submission of the specified products equipment and materials.
 3. All the equipment and materials that are acceptable equal substitution.
 4. If submission is NOT required for the SPECIFIED products "shop drawings and product data" under 1. and 2. above, the Contractor shall NOT submit a shop drawing for the SPECIFIED products.
 5. Samples, in good working order, shall be submitted in accordance with Division 1, complete with all installation and service drawings and instructions. All samples will be returned at the submitter's expense unless otherwise indicated. Samples may be subject to destructive testing by the Architect/Engineer.
- C. Operation and Maintenance manual(s) shall be submitted in accordance with Division 1 and shall include a complete product index, a copy of all accepted shop drawings, installation and maintenance data, sequence of controls, parts lists, and the name, address and telephone number of supplier or nearest representative. All electrical devices, equipment and systems marked [O/M] in these specifications shall be included and all other such electrical items which will require servicing before the duration of its useful life has been reached. The manual(s) shall be presented to the Engineer for review and transmitted to the Owner before the final payment is recommended.
- D. Equivalent: Manufacturers, trade names and model numbers indicated herein and on drawings shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. Unless definitely stated otherwise and upon complying with Division 1, the Contractor may use any article of equal appearance which, in his judgment is equal to that specified and is accepted by the Engineer. Where three or more manufacturers are named in the specifications for any item, the Contractor should use one of the manufacturers. No others shall be reviewed or accepted. Manufacturers listed first in these specifications and on drawings were used as a basis of design. It will be the responsibility of the Contractor to verify all connections, physical sizes and capacities of all other manufacturer's items, both items named herein, or items proposed. If the equipment necessitates changes in power distribution, conduit, wiring, lighting, ductwork, piping, or any other building systems from that indicated on the drawings, the Contractor shall be responsible for all additional costs included and notify other trades of the changes. Where such changes are required, detail drawings indicating all required changes shall be submitted for review at the same time the manufacturers drawings are submitted for approval. See Division 1 for substitutions.
- E. Guarantee: Electrical equipment, materials and labor required by these specifications and accompanying drawings shall be guaranteed to be free from defective materials or workmanship, including lamps, for a period of one year after final acceptance of the project except extended warranties as specified elsewhere in these documents on specific items of equipment will be furnished by the Trade providing the equipment. Defects in material or workmanship occurring during this period shall be corrected with new material and equipment or additional labor at no cost to the Owner. Manufacturer's certificates of warranty shall be transmitted to the Owner before final payment is recommended.

1.11 WARRANTIES:

- A. The Contractor shall warrant for a period of one year all work provided under the Contract to include, but not necessarily limited to, all systems, equipment, materials, and workmanship. This shall not

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be construed to limit any extended warranty periods of longer than one year for specific items or systems specified elsewhere in the Contract Documents.

- B. The warranty period shall commence on the date of acceptance by the Owner and shall cover all parts and labor as required to fulfill the warranty at no cost to the Owner.
- C. Refer to Division 1 for additional warranty requirements.
- D. Information on all warranties shall be included in the O&M Manuals specified herein to be provided to the Owner.

1.12 COORDINATION OF WORK:

- A. General: The contract documents indicate the extent and general arrangement of the electrical systems. The Contractor shall be responsible for the coordination and proper relation of the electrical work to the building structure and to the work of other trades if other projects are ongoing in the building. No additional compensation or extension of completion time will be granted for extra work caused by the lack of coordination.
- B. Cooperation: The Contractor shall provide dimensions and locations of all openings, shafts and similar items to the proper trades and install work as required so as not to interfere with, or delay, the building construction.
- C. Locations of lines and equipment shall be determined from actual field measurements. The outlines of the building shown on the electrical drawings are intended only as a guide to indicate relative locations of the electrical work. Refer to architectural and structural drawings for building construction details. If conflicts prevent installation of electrical work at the locations indicated, minor deviations shall be made subject to acceptance by the Engineer, and without additional compensation.
- D. Cutting and Patching: Unless stated otherwise, the Electrical Trade shall do all cutting necessary for the installation of his work. All work should be installed sufficiently in advance of new construction in order to permit installation of supports, sleeves, and similar items without cutting. Cutting which will in any way affect the building structure shall not be performed without permission of the Architect-Engineer. The Electrical Trade is responsible for patching where he does cutting. Patching shall be done to the satisfaction of the Engineer.
- E. Damage to Other Work: The Electrical Trade is responsible for damage to other work caused by his work or workmen. Repairing of damaged work shall be done by the Trade who installed the work, and as directed by the Engineer; the cost of which shall be paid for by the Electrical Trade.

1.13 ASBESTOS:

- A. Asbestos Free Materials: The intention of these drawings and specifications is that there be no asbestos containing materials installed on this project. To the best of the Architects' and Engineers' knowledge, none of the material or equipment specified herein or shown on the drawings contains asbestos. The Contractor shall make every effort to prevent any asbestos materials from being installed in or used on the construction of the project. At the completion of the project, the Contractor shall certify by letter that to the best of his knowledge, no asbestos containing materials were used for or in the construction of this project.

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B. Existing Materials:

1. Discovery: If during the construction of this project, work involving friable asbestos is suspected, or encountered, all work in this area shall be discontinued and the Owner or the Owner's representative, shall be notified immediately and the Owner with his own forces or by separate contract shall be responsible for complete investigation, removal, and disposition of the friable asbestos hazard in accordance with applicable laws and regulations. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, he shall make such claim as provided elsewhere in the contract documents.
2. Removal: All work involving the removal of friable asbestos will be done under a separate contract.

PART 2 - PRODUCTS

2.1 MANUFACTURERS AND MATERIALS:

- A. General: Manufacturers and materials shall be as specified in subsequent sections of these specifications and as noted on the drawings. Similar types of equipment shall be the products of the same manufacturer unless specified otherwise.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. General: Materials and equipment shall be installed in accordance with manufacturer's instructions to conform to the details and application as specified in subsequent sections of these specifications and indicated on the drawings.
- B. Supports: Provide necessary supports for all equipment and appurtenances as required.
- C. Temporary Requirements: Openings in equipment shall be kept capped at all times until connection is made to the system. The ends of all conduits and equipment openings shall be kept capped properly with approved devices. Approved devices are items such as specially molded plastic caps and sheet metal caps.
- D. Painting: All work under this Division shall be painted in accordance with Section 26 05 53, Identification for Electrical Systems. Division 26 shall also paint and identify all conduits and boxes as described in Section 26 05 53.

3.2 EXISTING WORK AND DEMOLITION:

- A. Electrical Demolition: Remove all existing electrical conduits, wiring, junction boxes, outlets, lighting fixtures, etc., indicated for demolition. Additional amounts of demolition may be required to accommodate desired renovations and new construction. Not all demolition may be shown on the drawings. All existing electrical equipment not indicated for demolition shall remain in place.

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- B. Equipment and Fixtures Removed: The Owner will select and retain such existing electrical equipment and materials which are indicated to be removed and not reused, as he desires. All other existing equipment and materials indicated to be removed, and not reused shall become the property of the Contractor, who shall remove them from the premises within the time frame specified under other Divisions of this Contract Document.
- C. Equipment Relocated: All existing diffusers and other electrical equipment and materials indicated to be relocated or in the way of equipment installation shall be disconnected, removed, and relocated. All electrical equipment and materials shall be protected from damage during demolition. Install new phase, neutral and grounding conductors, if grounding conductor is not already present, in each feeder and branch circuit to be reworked, from the panelboard to the outlet.
- D. Power Interruption: Attention is called to the fact that the existing facility shall remain in operation throughout the construction period. All necessary temporary arrangements shall be made as required to keep all electrical circuits in continuous operation during this period.
- E. Miscellaneous: In all altered portions of the buildings, the Electrical Trade shall remove or alter as necessary all existing electrical work that does not fit with the new construction. All existing work or areas that are not altered shall be reconnected as required. Where indicated changes to non-electrical facilities require minor electrical changes, these changes shall be accomplished even if not specifically indicated. Only a small portion of the existing work is shown on the drawings. Contractors submitting proposals shall visit the site to determine the scope of work under this heading as no additional compensation will be granted because of existing conditions even though the existing conditions may not be indicated on the drawings. Contractor shall thoroughly inspect the electrical systems in reworked areas and bring to the attention of the Engineer all defective or unserviceable material not scheduled for removal or replacement. Demolition shall not begin until the work schedule is approved by the Owner. The work shall be scheduled to prevent any disruption to the normal operations of the building. Refer to other Divisions for work phasing.

3.3 FIELD QUALITY CONTROL:

- A. System Readings: Certain system voltage and current readings shall be taken, the values recorded and submitted in triplicate to the Engineer. Two complete sets of readings are required, one under no load and one under maximum available load. The current and voltage shall be recorded on each phase (plus voltage between all phases) at main panelboard and at each branch circuit panelboard. Additional spot readings shall be made if required. Resistance of grounding system shall be tested and recorded. Forms for submitting this report may be obtained from the Engineer's office. A sample form is bound herewith.
- B. Verification [V]: Upon completion of the project, the Contractor shall submit a separate letter of certification (or compliance) to the Owner/Architect/ Engineer that each of the following systems or equipment functions properly, conforms to all requirements of these specifications and all requirements of the manufacturer of the systems.
 - 1. Section 26 29 23, Lighting Control Device
 - 2. Section 26 50 00, Lighting

3.4 MANUFACTURER'S ASSISTANCE:

- A. Qualified technical representatives of manufacturers shall be available to visit the project and provide required assistance for any problems or trouble areas of any systems, material or equipment

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used in the project. Manufacturer's engineering assistance shall also be available for above problems or trouble areas. The Contractor shall purchase all materials, equipment or systems with these services included in the purchase price or otherwise be prepared to have the above service provided when needed or requested by the Engineer without additional compensation. Where one manufacturer's equipment constitutes the majority of the components or devices to make a system, the manufacturer's technically qualified representative shall inspect and accept the completed installation whether or not especially requested by the Engineer.

3.5 INSTRUCTION OF OWNER'S REPRESENTATIVE:

- A. The Electrical Trade shall instruct the representative of the Owner in the proper operation and maintenance of all elements of the Electrical systems. Competent representatives of the Contractor shall spend such time as necessary to fully prepare the Owner to operate and maintain the Electrical systems.

3.6 CONSTRUCTION STATUS REPORT:

- A. Each item of discrepancies noted on Construction Status Report prepared by the Engineer shall be answered in detail in writing by the Contractor before payment can be recommended.

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3.7 SCHEDULE OF ABBREVIATIONS:

Electrical Abbreviations:

A	-	AMP	FIXT	-	FIXTURE	RR	-	REMOVE & REINSTALL
ABV	-	ABOVE	FL	-	FLOOR	R&C	-	REMOVE DEVICE & CAP
AC	-	AIR CONDITIONING OR	FLA	-	FULL LOAD AMPS			OUTLET
		ARMOR CLAD	FLUOR	-	FLUORESCENT	REC	-	RECEPTACLE
ACB	-	AIR CIRCUIT BREAKER	FS	-	FILLER SECTION	RHC	-	RE-HEAT COIL
ACI	-	AMERICAN CONCRETE	FU	-	FUSE	RLY	-	RELAY
		INSTITUTE	GBM	-	GROUND BUS MODULE	SEC	-	SECONDARY
ACS	-	ABOVE COUNTER	GEC	-	GROUNDING	SGA	-	SURGICAL GAS ALARM
		SPLASHBACK			ELECTRODE	S/N	-	SOLID NEUTRAL
ADAAG	-	AMERICANS WITH			CONDUCTOR	S/O	-	SPACE ONLY
		DISABILITIES ACT	GEN	-	GENERATOR	SP	-	SINGLE POLE
AEIC	-	ASSOC OF EDISON	GF	-	GROUND FAULT	ST	-	SINGLE THROW
		ILLUMINATING CO'S.	GND	-	GROUND	SURF	-	SURFACE
AFF	-	ABOVE FINISHED	GRS	-	GALVANIZED RIGID	SUSP	-	SUSPENDED
		FLOOR			STEEL CONDUIT	SW	-	SWITCH
ANSI	-	AMERICAN NATIONAL	HOA	-	HAND-OFF-AUTOMATIC	SYNCH	-	SYNCHRONIZE
		STANDARDS INSTITUTE	HP	-	HORSEPOWER	TC	-	TIME CLOCK
ASME	-	AMERICAN SOCIETY OF	HPS	-	HIGH PRESSURE	TEL	-	TELEPHONE
		MECHANICAL ENG.			SODIUM	TIA	-	TELE-
ASTM	-	AMERICAN SOCIETY	HV	-	HIGH VOLTAGE			COMMUNICATIONS
		FOR TESTING AND	HW	-	HOT WATER			INDUSTRY ASSOC
		MATERIALS	HZ	-	HERTZ	TRANS	-	TRANSFORMER (XFMR)
ATS	-	AUTOMATIC TRANSFER	IB	-	IN BASEBOARD	TYP	-	TYPICAL
		SWITCH	IBS	-	IN BASE OF SHELVES	UCL	-	UNDER COUNTER LIP
AUTO	-	AUTOMATIC	ICEA	-	INSULATED CABLE	UFAS	-	UNIFORM FEDERAL
AUX	-	AUXILIARY			ENGINEERS			ACCESSIBILITY
BALL	-	BUILDING ACOUSTICS			ASSOCIATION			STANDARDS
		AND LIGHTING LABS	ICL	-	IN COUNTER LIP	UH	-	UNIT HEATER
BAT	-	BATTERY	ICS	-	IN COUNTER	UL	-	UNDERWRITERS LAB
BIL	-	BASIC INSULATION			SPLASHBACK	UV	-	UNIT VENTILATOR
		LEVEL	IEEE	-	INSTITUTE OF	V	-	VOLT
BOCA	-	BUILDING OFFICIALS			ELECTRICAL AND	VDOT	-	VIRGINIA DEPARTMENT
		AND CODE ADMIN.			ELECTRONICS ENG'S			OF TRANSPORTATION
BRK	-	BREAKER	IGC	-	ISOLATED GROUNDING	W	-	WATTS
CAP	-	CAPACITORS			CONDUCTOR	WH	-	WALL HEATER
CABO/MEC	-	COUNCIL OF AMER.	IMC	-	INTERMEDIATE METAL	WM	-	WIRE MOLD
		BLDG. OFFICIALS MDL			CONDUIT	WP	-	WEATHERPROOF
CB	-	CIRCUIT BREAKER	INCAND	-	INCANDESCENT	Y	-	WYE
		(CRT BRK)	INTLK	-	INTERLOCK			PHASE
CBM	-	CERTIFIED BALLAST	ITL	-	INDEPENDENT TESTING			
		MANUFACTURERS			LABORATORIES			
CCCT	-	CROSS CURRENT	JB	-	JUNCTION BOX			
		COMPENSATION	KV	-	KILOVOLTS			
		TRANSFORMER	KVA	-	KILOVOLTS-AMPS			
CF	-	COIL FAN	KVAR	-	KILOVAR			
CMU	-	CONCRETE MASONRY	KW	-	KILOWATT			
		UNIT	LA	-	LIGHTNING ARRESTOR			
CND	-	CONDUIT (COND)	LV	-	LOW VOLTAGE			
CNDCT	-	CONDUCTOR	MAX	-	MAXIMUM			
COMB	-	COMBINATION	MC	-	METAL CLAD			
CONC	-	CONCRETE	MDH	-	MAGNETIC DOOR			
CONTR	-	CONTRACTOR			HOLDER			
CPT	-	NEUTRAL GROUNDING	MECH	-	MECHANICAL			
		TRANSFORMER	MFG	-	MANUFACTURER			
CRT	-	CIRCUIT	MIN	-	MINIMUM			
CS	-	CORNER SECTION	MH	-	MANHOLE			
CT	-	CURRENT	MO	-	MOTOR OPERATED			
		TRANSFORMER	MOD	-	MOTOR OPERATED			
CUH	-	CABINET UNIT HEATER			DAMPER			
CW	-	COLD WATER	MP	-	MAIN PANEL			
DB	-	DOORBELL						
DF	-	DRINKING FOUNTAIN	MP SW	-	MOTOR PROTECTIVE			
		DOOR HOLDER			SWITCH			
DH	-	DISCONNECT SWITCH	MS	-	MOTOR STARTER			
DISC SW	-	(D.S.)	MTD	-	MOUNTED			
			MTS	-	MANUAL TRANSFER			
DO	-	DRAW OUT			SWITCH			
DP	-	DOUBLE POLE						
DT	-	DOUBLE THROW	MW	-	MEGAWATTS			
DW	-	DISHWASHER	NC	-	NORMALLY CLOSED			
E	-	EXISTING (EXST)	NCS	-	NURSES CALL SYSTEM			
EA	-	EACH	ND	-	NEW DEVICE IN			
EC	-	ELECTRIC CONVECTOR			EXISTING OUTLET			
EEL	-	EDISON ELECT. INST.	NEC	-	NATIONAL ELECTRIC			
EGC	-	EQUIPMENT			CODE			
		GROUNDING	NEMA	-	NATIONAL ELECTRICAL			
		CONDUCTOR			MANUFACTURERS			
EIA	-	ELECTRONIC			ASSOCIATION			
		INDUSTRIES ASSOC.	NESC	-	NATIONAL ELECTRICAL			
ELEC	-	ELECTRIC			SAFETY CODE			
			NFPA	-	NATIONAL FIRE			
EMER	-	EMERGENCY (EM)			PROTECTION ASSOC			
EMT	-	ELECTRICAL METALLIC	NIC	-	NOT IN CONTRACT			
		TUBING	NEUT	-	NEUTRAL			
EN	-	EXISTING OUTLET WITH	NO	-	NORMALLY OPEN			
		A NEW DEVICE AND	OCB	-	OIL CIRCUIT BREAKER			
		WIRING	OPR	-	OPERATED			
ENG	-	ENGINE	OS	-	OIL SWITCH			
EO	-	EXISTING OUTLET	OSHA	-	OCCUPATIONAL			
EQUIP	-	EQUIPMENT			SAFETY & HEALTH ACT			
EP	-	EXPLOSION-PROOF	P	-	POLE			
EP SW	-	ELECTRO- PNEUMATIC	PA	-	PUBLIC ADDRESS			
		SWITCH	PB	-	PULLBOX			
ER	-	EXISTING RELOCATED	PC	-	PHOTOCELL (PEC)			
ERL	-	ENVIRONMENTAL	PD	-	PLUG DUCT			
		RESEARCH LABS	PE	-	PNEUMATIC ELECTRIC			
ESC	-	ELECTRIC SEQUENCE	PM	-	PLUG MOLD			
		CONTROLS	PNL	-	PANEL			
ETL	-	ELECTRICAL TESTING	PS	-	PLUG STRIP			
		LAB	PT	-	POTENTIAL			
EWC	-	ELECTRIC WATER			TRANSFORMER			
		COOLER	PW	-	PART WINDING (MOTOR			
EXP	-	EXPANSION			STARTER)			
FA	-	FIRE ALARM	PWR	-	POWER			
FIN FL	-	FINISHED FLOOR	R	-	REMOVE			

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END OF SECTION 26 05 00

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SECTION 26 05 19 – LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL:

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Wires and Cables, Under 600 Volts.
- B. Connectors and Lugs, Under 600 Volts

1.3 RELATED WORK:

- A. Section 26 05 26 – Grounding And Bonding For Electrical Systems
- B. Section 26 05 33 – Raceway And Boxes For Electrical Systems
- C. Section 26 05 53 – Identification For Electrical Systems

1.4 REFERENCES:

- A. All wire, cables, connectors and lugs shall be U.L. listed for the application intended, and meet NEMA applicable standards.
- B. All wiring methods shall meet with NFPA applicable codes.

1.5 CONDUCTOR CODING: (208Y/120-Volt)

1.6 CONDUCTOR CODING (208Y/120 and 480Y/277 Volt)

- A. Color Code Conductors of 208Y/120-volt system power and lighting conductors as follows:

Neutral	White
Ground	Green
Phase A	Black
Phase B	Red
Phase C	Blue

- B. Color Code Conductors of 480Y/277-volt system* power and lighting conductors as follows:

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Neutral	Grey
Ground	Green
Phase A	Brown
Phase B	Orange
Phase C	Yellow

* Owner's NEC compliant color code may be substituted for the above 480Y/277 code.

- C. No. 12 and No. 10 conductors shall have continuous insulation color(s). Color code conductors larger than No. 10 which do not have continuous insulation color by application of at least two laps of colored tape on each conductor at all points of access. Tape shall be "Scotch," "Highland," or "Timflex" vinyl plastic electrical tape No. 35, or accepted equal. The 480Y/277 volt conductors shall be marked with an appropriately wide tape of the above base color and an adjacent narrow tape of yellow. Wrap-around "Brady" markers or shrinkable PVC sleeving with hot-stamped lettering may be used and shall state the appropriate conductor identification. Label "480Y/277-Volt" on all phase conductors of the 480Y/277-volt system.
- D. Number code all control and instrumentation wiring at all points of access.

1.7 CONDUCTOR SIZES:

- A. All conductor sizes (AWG) are based on copper.

1.8 SUBMITTALS:

- A. Submit shop drawings and product data in accordance with Section 26 05 00.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. All wires and cables shall be as manufactured by General Cable, Capital Wire & Cable, Carol Cable, American Insulated Wire, Southwire, Senator, Rome, Cerro Wire and Cable, Circle Wire & Cable.
- B. All connectors and lugs shall be as manufactured by T & B, Buchanan, 3M, Burndy, or accepted equal.

2.2 MATERIALS AND TYPE:

- A. Wiring, Power and Control:

1. General:

- a. Conductors shall be **soft annealed copper** unless otherwise indicated.
- b. All conductors #8 AWG or larger shall be stranded.
- c. All power wiring shall be #12 AWG minimum unless otherwise indicated.

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- d. All control wiring shall be #14 AWG minimum for NEC Class I and #16 AWG minimum for NEC Class II, **extra fine stranding**.
 - e. All insulation shall be rated for 600 volts unless otherwise indicated.
2. Building Wiring: Conductors shall be type "THWN" or "THHN" unless otherwise indicated. "THHN" shall not be used in damp or wet locations.
 3. Underground Wiring (Refer to Part-3 for limitations):
 - a. #12 AWG through #6 AWG: Conductors shall be type UF copper cable with heat and moisture-resistant insulation, suitable for branch-circuit wiring. The cable shall have an insulated equipment grounding conductor. The overall covering shall be flame-retardant; moisture, fungus, and corrosion resistant; and shall be limited to use within the pole standard.
 - b. #12 AWG through 500 kcmil (MCM) AWG: Conductors shall be type RHH/USE/RHW stranded copper with Durasheath cross-linked polyethylene, thermosetting XLPE that is heat, fungus and moisture resistant.
 - c. #12 AWG through 500 kcmil (MCM) AWG: Conductors shall be type XHHW-2 stranded copper cable with cross-linked polyethylene, thermosetting XLPE that is chemical and oil resistant, and suitable for wet or dry locations.
 4. Flexible Metal Conduit (Liquidtight) Connections and Motor Starter Enclosures: Power and line voltage control wiring Type MTW stranded copper unless otherwise indicated for all equipment subject to movement and vibration, and motor starter enclosures.
 5. Flexible Cable:
 - a. Shall be hard service cord, type "SO" with equipment ground conductor in addition to normal current carrying conductors, and "safety-yellow" jacket.
 - b. Connectors shall be Crouse-Hinds series CG, Appleton, Kellems, O.Z./Gedney, Raco, or T & B, complete with locknut, sealing gasket, gland nut and tapered neoprene bushing.
 - c. In hazardous areas, connectors shall be Crouse-Hinds CGBS.
- B. Connectors and Lugs, 600 Volts and Under:
1. Material: Copper, or suitable copper alloy, for all current carrying parts and all parts coming in contact with conductors.
 2. Connectors and Lugs, No. 8 and Larger Conductors: Compression type T & B "Color-Keyed", or accepted equal by Burndy or Kearney. Mechanical compression lugs furnished with equipment are acceptable. Provide insulating covers or heat shrinkable insulators where required.
 3. Connectors, No. 10 and Smaller Conductors: Permanently indented self-insulated pressure connectors T & B, Buchanan, or accepted equal. Snap-on insulating caps are acceptable insulation. "Scotch-loks" by the 3M Company, "Wing-Nut" by Ideal, "Legrands" by Pass & Seymour (P&S) are acceptable wing type wire connectors.
 4. Lugs, No. 10 and Smaller Conductors: Permanently indented or compression type by Buchanan, Burndy, T & B, or accepted equal. Washer head screw terminals without lugs are acceptable on neutral bars, circuit breakers, wiring devices and other equipment, unless otherwise indicated. Mechanical compression lugs furnished with equipment are acceptable.
 5. Exterior Splices: Compression type T & B "Color-Keyed", complete with T & B Shrink-Kon series HS heat shrinkable insulators, or accepted equal by Burndy or Kearney.
 6. Connectors and Lugs, Aluminum: All connectors, lugs and fittings shall be UL listed for use with aluminum alloys, and aluminum to copper alloys where encountered.

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PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Clean out raceway system before pulling wire.
- B. Thoroughly inspect all existing raceway systems for burrs, deformation, rust, water, and other hazards. Inform Architect/Engineer in writing of any raceway conditions that would be detrimental to wiring, or not in compliance with Codes or practices. All existing raceways shall meet the requirements of Section 26 05 33.
- C. Utilize an approved compound as required to facilitate pulling wires and cables, unless otherwise indicated.
- D. 600 Volts and Under Wiring Methods:
 - 1. Conductor Ties:
 - a. Inside each enclosure, other than outlet and junction boxes, conductors shall be bundled and trained utilizing T & B "Ty-Rap", 3M Brand Cable Ties, Tyton Cable Ties, or accepted equal, ties. All Switchboards, Panelboards, Motor Starters, Disconnects, etc. require at least one (1) conductor tie for each circuit entering and each circuit leaving the Switchboard, Panelboard, Motor Starter and Disconnect.
 - 2. Conductor Sizes:
 - a. Line Voltage Power Wiring: No. 12 AWG minimum. Circuits and feeders larger than 20 amp. to have conductors sized for equal or greater ampacity than their protective device ratings unless otherwise indicated. All wires for 20 amp. circuits shall be #10 on runs 100 feet to 250 feet, #8 on runs 251 feet to 500 feet and #6 on runs 501 feet and above.
 - b. Control Wiring:
 - 1) 120 Volt: If not carrying motor current, No. 14 AWG unless otherwise indicated, or required by load or distance encountered.
 - 3. Terminal Strips: Where equipment does not have terminal strips, provide terminal strips to terminate and splice control, power limited and communication cables. Indicate wire numbers on strip with indelible pen.
 - 4. Conductor Identification:
 - a. Wire Markers:
 - 1) Identify lighting and receptacle branch circuit wiring by panelboard name and circuit number at all accesses.
 - 2) Identify motor branch circuit wiring by circuit number and phase at all accesses.
 - 3) Identify feeders by name of equipment from which they originate, circuit number, and phase.
 - 4) Identify all control wiring with a unique number for each wire.
 - b. Color Code: Color code conductors to designate neutral conductor, ground conductor and phase conductors as described in Part 1 of this Section.

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5. Splices:
 - a. Feeders: Feeder conductors installed between electrical distribution equipment (i.e., switchboards, transformers, and panelboards) shall be free from splices, no exceptions. Any feeder conductor splices proposed by the Contractor shall be approved in advance by the Engineer; otherwise, they are not permitted.
 - b. No splices shall be made in any conductor beyond the exterior walls of the Building, except in exterior pullboxes, and where approved by the Engineer.
6. Each applicable system shall have a separate conduit system unless the applicable system's manufacturer, Codes and Regulations permit other systems conductors to be installed in the same conduit.

END OF SECTION 26 05 19

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SECTION 26 05 23 – CONTROL VOLTAGE ELECTRICAL POWER CABLES

PART 1 - GENERAL:

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Power Limited Shielded Cable

1.3 RELATED WORK:

- A. Division 23 - Mechanical
- B. Section 26 05 26 – Grounding And Bonding For Electrical Systems
- C. Section 26 05 33 – Raceway And Boxes For Electrical Systems
- D. Section 26 05 53 – Identification For Electrical Systems

1.4 REFERENCES:

- A. All wire, cables, connectors and lugs shall be U.L. listed for the application intended, and meet NEMA applicable standards.
- B. All wiring methods shall meet with NFPA applicable codes.

1.5 CONDUCTOR SIZES:

- A. All conductor sizes (AWG) are based on **copper**.
- B. Number code all control and instrumentation wiring at all points of access.

1.6 SUBMITTALS:

- A. Submit shop drawings and product data in accordance with Section 26 05 00.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. All connectors and lugs shall be as manufactured by T & B, Buchanan, 3M, Burndy, or accepted equal.
- B. All **power limited shielded twisted pair** shall be as manufactured by Manhattan, Belden, Alpha, West Penn, Anixter [S].

2.2 MATERIALS AND TYPE:

A. Wiring, Power and Control:

1. General:

- a. All control wiring shall be #14 AWG minimum for NEC Class I and #16 AWG minimum for NEC Class II, **extra fine stranding**.
- b. All insulation shall be rated for 600 volts unless otherwise indicated.

2. Plenum rated power limited twisted pair cable.

- a. For Remote Control, Signaling and Power-Limited Circuits as per NEC-725 for Class 2 and 3 circuits.
 - 1) General: Cable shall be UL classified, Subject 13, non-conduit application in ceiling air plenum in accordance with NEC 725 and as specified below.
 - 2) Other Systems: Wiring on the applicable systems load side shall be gauge, pairs and shield as required by the applicable system's manufacturer and shall have similar features as to "(2)". Provide shield if required by applicable system's manufacturer or Codes.

3. Power limited twisted pair cable (Not for air plenums):

- a. For Remote Control, Signaling and Power-Limited Circuits as per NEC-725 for Class 2 and 3 circuits.
 - 1) General: Cable shall be UL classified for non-conduit application in ceiling void (non-air plenum) in accordance with NEC 725 and for application in multi system common raceway in accordance with NEC 725 and as specified below.
 - 2) Other Systems: Wiring on the applicable systems load side shall be gauge, pairs and shield as required by the applicable system's manufacturer and shall have similar features as to "(2)". Provide shield if required by applicable system's manufacturer or Codes.

- 4. Terminal Strips shall be 600 volt barrier type with marking strip suitable for marking with indelible pens.
- 5. Pulling compound shall be U.L. listed.
- 6. Wire markers shall be wrap-around tags made of shrinkable PVC sleeving with hot-stamped blocks or slip-on beads.

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PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Clean out raceway system before pulling wire.
- B. Thoroughly inspect all existing raceway systems for burrs, deformation, rust, water, and other hazards. Inform Architect/Engineer in writing of any raceway conditions that would be detrimental to wiring, or not in compliance with Codes or practices. All existing raceways shall meet requirements of Section 26 05 33.
- C. Utilize an approved compound as required to facilitate pulling wires and cables, unless otherwise indicated.
- D. 600 Volts and Under Wiring Methods:
 - 1. Conductor Ties:
 - a. All power limited cable shall be bundled and trained for each system in the ceiling voids. Each bundle shall be supported from the structure with proper metallic (Caddy) clamp or hanger at the required distances. Proper type of T & B Halar™ cable ties are permitted for use in air plenums.
 - 2. Conductor Sizes:
 - a. Control Wiring:
 - 1) 120 Volt: If not carrying motor current, No. 14 AWG unless otherwise indicated, or required by load or distance encountered.
 - 2) 30 Volts or Under: No. 16 AWG unless otherwise indicated, or required by load or distance encountered.
 - 3. Control and instrumentation wiring specified in Divisions 26 and shall be furnished and installed by Division 26.
 - 4. Plenum Rated (and Non-Plenum) Power Limited Shielded Twisted Pair Cable:
 - a. All plenum rated (and non-plenum) shielded power limited cable shall be installed in accordance with NEC Article 725, 760 or 800 on the "load" side of the applicable system.
 - b. Provide proper number, shielding and size of wires as required for operation of the applicable system in accordance with the manufacturer's instructions and applicable NFPA codes.
 - c. Raceway Requirements:
 - 1) Where an accessible ceiling system or demountable partitions are installed; hollow spaces in casework are available; or similar accessible void is available; a conduit system will not be required. If a conduit system is not utilized cables shall be installed using the specified "Open Wire Management" system.
 - 2) Where cable is in inaccessible ceiling voids, in inaccessible wall void, penetrates a floor or wall, or exposed on wall or at ceiling, the cable shall be in conduit.

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- 3) Where partial, detached or "floating" ceilings are provided or no finished ceiling is provided, the cable shall be in conduit, terminating in an accessible corridor ceiling void.
 - 4) The above conduits shall terminate in an accessible void and shall be bushed to prevent damage to cable. All conduits shall also be grounded to the BGES.
- d. Wiring splices are to be avoided to the extent possible, and if needed, they must be made only in accessible junction boxes and shall be crimp connected.
 - e. Transposing or changing color coding of wires shall not be permitted.
 - f. Wire nut-type connections are not acceptable. All connections shall be made on terminal strips (in boxes or cabinets).
 - g. All conductors shall be labeled on each end with "E-Z markers" or equivalent.
 - h. Conductors in cabinets shall be carefully formed and harnessed so that each drops off directly opposite to its terminal.
 - i. Cabinet terminals shall be numbered and coded. All controls, function switches, etc., shall be clearly labeled on all equipment panels.
 - j. All connections to components and equipment shall be made with crimp type terminal connections, or method approved by applicable systems manufacturer.
 - k. All wiring shall be checked and tested to insure that there are no grounds, opens or shorts.
 - l. Ground all shields only at termination point (originating).
 - m. If shield is not to be grounded, pull shield back over cable jacket and insulate with heat shrink tubing to prevent accidental grounding.
 - n. Install cable connectors on all power limited cables entering enclosures except where cable is in protective conduit.
 - o. All cables installed in ceiling voids shall be attached to or supported from a vertical surface, a structural member or electrical conduit with a Caddy flexible cable support, bridle ring or cable clamp; or specified conductor tie (plenum rated where required). Absolutely **do not** support from ceiling system or fixture support wires **except** where accessing a ceiling mounted device. The cable(s) shall **not** block lay-in lighting fixtures, ceiling mounted HVAC equipment or ceiling tiles in order to allow **full** access to the ceiling void.
5. Terminal Strips: Where equipment does not have terminal strips, provide terminal strips to terminate and splice control, power limited and communication cables. Indicate wire numbers on strip with indelible pen.
 6. Conductor Identification:
 - a. Wire Markers:
 - 1) Identify all control wiring with a unique number for each wire.
 - b. Splices:
 - 1) No splices shall be made in any conductor beyond the exterior walls of the Building except in exterior pullboxes, and where approved by the Engineer.
 - 2) Shielded power limited cable for Digital Control System wiring shall be splice free.
 7. Each applicable system shall have a separate conduit system unless the applicable system's manufacturer, Codes and Regulations permit other systems conductors to be installed in the same conduit.

END OF SECTION 26 05 23

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SECTION 26 05 26 – GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Equipment Grounding Conductor (EGC)

1.3 RELATED WORK:

- A. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables
- B. Section 26 05 23 – Control Voltage Electrical Power Cables
- C. Section 26 05 33 – Raceway and Boxes for Electrical Systems

1.4 REFERENCES:

- A. NFPA 70 (NEC), Article 250

1.5 DESCRIPTION:

- A. An insulated equipment grounding conductor, color coded per section 26 05 19, and the NEC, shall be provided for each alternating current circuit without exception.

1.6 TESTS:

- A. The equipment grounding conductor shall be tested for continuity and proper bonding to metallic equipment enclosures, outlet boxes, wiring devices and similar items.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Ground Clamps: Thomas & Betts "GUV," O. Z. Gedney "CG" series or Blackburn "GUV" series, as required by water pipe size and/or grounding electrode conductor size.

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PART 3 - EXECUTION

3.1 INSTALLATION:

A. Equipment Grounding Conductor (EGC):

1. Provide a separate insulated grounding conductor, color-coded as per Section 26 05 19, enclosed in the same raceway with the phase conductors for all alternating current circuits, even though not necessarily shown on the drawings.
2. The equipment grounding conductor shall be secured to the equipment enclosure at the source of power and at the apparatus being served by the alternating current supply.
3. The minimum size for the grounding conductor shall be as specified in Table 250.122 of N.E.C.
4. Existing alternating current circuits: If an equipment grounding conductor is not present in the existing feeder or branch circuit to be reworked, Division 26 shall provide new phase, neutral and grounding conductors from the related switchboard or panelboard to the indicated outlet.

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SECTION 26 05 33 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL:

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Rigid Conduit (Heavy Wall, Intermediate Metal Conduit, Electrical Metallic Tubing and Rigid Non-Metallic Conduit)
- B. Flexible Conduit (Liquidtight and "Greenfield")
- C. Fittings for Conduits, Flexible Metal Conduit.
- D. Pull Boxes
- E. Junction Boxes
- F. Outlet Boxes

1.3 RELATED WORK:

- A. Section 26 05 53 – Identification For Electrical Systems

1.4 SUBMITTALS:

- A. Submit shop drawings and product data in accordance with Section 26 05 00.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Rigid Heavy Wall Conduit (GRS): Essex, Allied Tubing, Republic, Steelduct, Triangle, L.T.V., Wheatland, or accepted equal.
- B. Intermediate Metal Conduit (I.M.C.): L.T.V., Berger Industries, Inc., Allied Tubing, or accepted equal.
- C. Electrical Metallic Tubing (E.M.T.): L.T.V., Wheatland, Republic, Steelduct, Berger Industries, Inc., or accepted equal.

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- D. Liquidtight Flexible Metal Conduit: Anaconda "Sealtite", O.Z./Gedney "Flex-Guard", Electri-Flex Co. "Liquid-Tight", or accepted equal.
- E. Galvanized Single Strip Steel Flexible Conduit: American Flexible Conduit, Anaconda, Electri-Flex Co., or accepted equal.
- F. Fittings (All fittings to be same materials as specified for conduit):
 - 1. Rigid Heavy Wall and Intermediate Metal Conduit Fittings: O.Z., T & B, Efcor, Berger Industries, or accepted equal.
 - 2. Electrical Metallic Tubing Fittings: T & B, Raco, Steel City, O.Z./Gedney, Berger Industries, Inc. or accepted equal.
 - 3. Flexible Metal Conduit Fittings: T & B, O.Z./Gedney, Midwest, Steel City, or accepted equal.
 - 4. Conduit "L's": Crouse Hinds, Killark, O.Z./Gedney, Shamrock Conduit Products, or accepted equal.
 - 5. Cable Supports: O.Z. type M, or accepted equal.
 - 6. Insulated Throat Metallic Bushings: O.Z./Gedney Type B or BLG, T & B nylon insulated metallic, or acceptable equal by Efcor. Provide grounding lug type where required
- G. Pull and Junction Boxes: General Metals, Electromate Mfg. Corp., Hoffman, or accepted equal.
- H. Outlet Boxes: Appleton, Raco, Steel City, or accepted equal.
- I. Outlet Box Brackets: E-Z Mount Bracket Co., Inc., Vinton, Virginia 24179 (703-345-3000), or accepted equal by Caddy, Raco.

2.2 MATERIALS AND USE:

- A. Rigid Heavy Wall Conduits (GRS): Of mild steel tube, electro or hot-dipped galvanized and U.L. labeled.
- B. Intermediate Metal Conduit (I.M.C.): Of mild steel tube in sizes 3/4" to 4", hot-dipped galvanized or electro-galvanized and U.L. labeled. Refer to limitations under Part 3 - EXECUTION.
- C. Electrical Metallic Tubing (EMT): Of mild steel tube in sizes 3/4" to 4" hot-dipped galvanized or electro-galvanized and U.L. labeled. Refer to exceptions under Part-3.
- D. Flexible Metal Conduit:
 - 1. Liquidtight flexible metal conduit: Flexible galvanized steel tubing covered with extruded liquid-tight jacket of PVC and a continuous copper bonding conductor wound spirally between the convolutions. Refer to limitations in Part 3 - EXECUTION.
 - 2. Galvanized single strip steel flexible conduit (Commercial Greenfield): UL 1 listed. Refer to limitations in Part 3 - EXECUTION.
- E. Fittings:
 - 1. For Rigid and Intermediate Conduit: Couplings to be galvanized or sheradized steel. Double galvanized steel locknuts shall be used where required by code. Single locknut and bushing may be used elsewhere. Insulated throat metallic bushings to be installed on all rigid conduit terminations where such bushings are required by NEC to protect the wires from abrasion. Use ground lug type where required.

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2. For E.M.T.: Steel set screw connectors, permanently indented or gland compression type.
Do not use cast metal type.
 3. For Flexible Metal Conduit: Standard liquidtight fittings for liquidtight conduit. Standard steel flexible metal conduit fittings for standard flexible metal conduit.
 4. Conduit "L's": Galvanized steel, threaded, "LB" or "LBD".
 5. Cable Supports: To be installed for the support of all conductors and cables as per NEC Article 300-19.
- F. All boxes to be sheradized or galvanized (after fabrication) sheet steel (except floor boxes) code gauge boxes.
- G. The minimum size of all boxes shall conform to the requirements of the National Electrical Code, unless noted to be larger on the drawings, and shall have adequate braces and supports.
- H. Pull and Junction Boxes: All boxes shall have screw-on or hinged covers. All flush mounted boxes shall have 3/4" overlapping covers with flush-head cover retaining screws and covers in finished areas shall be prime coated with paint.
- I. Outlet Boxes:
1. All boxes shall have ears turned in. Multiple gang boxes must be one piece type (not built-up). Provide 3/8" (or larger if required) fixture stud in all fixture boxes. Provide appropriate covers as required, including 3/4" deep plaster ring covers where plaster may be encountered. Provide vapor proof outlet boxes for vapor proof fixtures. Provide size and type of boxes as required by location and N.E.C., except where exposed masonry occurs, use one piece "tile boxes". All boxes shall be 4" square boxes with "tile rings" unless noted otherwise or where larger sizes are required. All outlet boxes requiring hangers shall be hung with metal hangers.
 2. **All exposed boxes below ceiling level shall be cast type FS or FD.**
- J. Stud Wall Outlet Box Brackets: Provide #E-Z 1-4, #E-Z 4-1116 or #E-Z 23-1 outlet box brackets with extension brackets or acceptable equal.
- K. Outlet Box Bar Hangers: Provide adjustable or solid bar metal hangers by Appleton Electric Manufacturing or accepted equal.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Provide raceway systems to achieve required distribution, switching and circuit control. All wires for all systems shall be installed in rigid metal raceways and terminated in boxes or cabinets, unless otherwise specified herein as partial conduit or non-conduit installation. Allow for making connections to all outlets, motors, etc., indicated and check plans to insure that all outlets, etc., have a designated circuit. Notify the Engineer of any discrepancies found.
- B. Conduit runs are not shown on the drawings, unless specifically noted or indicated otherwise.
- C. Conceal all raceways in existing construction except where specifically noted on drawings or permitted as exposed. Runs in mechanical room areas may be exposed. Exposed conduit must be

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run parallel with the building walls and supported in a neat substantial manner. Refer to surface raceways under PART 3 - EXECUTION.

- D. **Cap** raceway systems during course of construction and thoroughly clean inside before installation of conductors.
- E. Provide a completely separate raceway system for all emergency lighting and exit sign circuits as required by N.E.C.
- F. No rigid raceway for line voltage wiring shall be smaller than 3/4", except for flexible conduit, unless specifically indicated otherwise. The Electrical Trade shall size all other raceways based on the N.E.C. and verify the sizes shown on the drawings, increasing same if required by local authorities and/or codes.
- G. All conduit feeding from one building area to another shall remain within the confines of the building, unless shown or noted otherwise on the drawings.
- H. Field made conduit bends shall be made with an acceptable bending machine or conduit bender.
- I. Flexible Metal Conduit:
 - 1. Liquidtight flexible metal conduit cannot be used in an air plenum ceiling void. Standard galvanized single strip steel flexible conduit shall be used in air plenum ceiling void.
 - 2. Galvanized single strip steel flexible conduit (6' maximum length) limited to use as the flexible connection to recessed lighting fixture assemblies (*only*) (and in existing wall voids).
- J. Rigid Metal Heavywall Conduit (GRS):
 - 1. All joints shall be properly threaded and made tight in standard conduit couplings.
 - 2. All thread conduits or nipples are not acceptable.
 - 3. All conduit cuts shall be square, made with a hacksaw or approved cutting machine, and reamed after threading and before installation to remove burrs.
 - 4. All threads, both field-cut and factory-cut, not otherwise protected, shall be painted after installation with two coats of asphaltum paint if concealed and two coats of primer base paint if installed in an exposed location.
 - 5. GRS shall be used in service entrance raceways where exposed.
 - 6. Clamps to be malleable two (2) hole galvanized iron and hangers to be rod type steel.
- K. Where conduits are exposed to occupants, up to 8'-0" feet above the floor, the conduits shall be snug to the wall and secured with two (2) hole clamps (utilizing specified detention type fasteners).
- L. Intermediate Metal Conduit (IMC):
 - 1. Applicable specifications for installation of rigid metal conduit applies to IMC.
 - 2. IMC can be substituted for GRS per the NEC.
- M. Electrical Metallic Tubing (EMT):
 - 1. Applicable specifications for installation of rigid metal conduit applies to E.M.T.
 - 2. E.M.T. shall **not** be used underground, cast in concrete, exposed on exterior of buildings, and exposed interior locations below 8'-0" (above finished floor).
 - 3. E.M.T. may be routed down exposed interior walls to top of panelboards, motor starters, disconnect switches, light switches, etc.
 - 4. E.M.T. is permitted in electrical and mechanical equipment rooms, per detail on drawings.

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- N. Supports: Provide metallic supports as required for the proper installation of the raceway or conduit systems and all other equipment installed under this contract. **Wire shall not be used to support or tie down any conduit system.**
- O. Empty Conduits: Pull #12 stranded gauge galvanized fishing wires or stranded nylon line through all empty conduits for all systems. These wires or lines to remain in the conduits.
- P. Exposed Masonry: Where wall finish is exposed masonry, raceways shall be so placed in wall that the masonry unit can be neatly set around it with minimum cutting and without injury to the exposed masonry face.
- Q. Pull and Junction Boxes: Provide all necessary pull and junction boxes where indicated or required by National Electrical Code. Certain pull and junction boxes may be shown on the drawings for specific design reasons but is not to preclude the fact that additional boxes will be required to conform to codes and good practice.
- R. Outlet Boxes:
1. General: All outlet boxes shall be set flush or set to meet the N.E.C. requirements; otherwise box extensions shall be installed. Mounting heights of all outlets shall be as indicated on the drawings, specified herein, or as permitted on the job. Support all boxes to maintain alignment and rigidity. Clean boxes of all foreign matter prior to installation of wiring and/or devices. Adjacent outlet boxes shall be aligned horizontally at the same height, or vertically in the same line, as required.
 2. Wall Outlets:
 - a. Where the outlet boxes are shown back-to-back in the walls of 6" or less in thickness, the boxes shall be offset horizontally. Through-the-wall outlet boxes shall not be permitted. Outlet boxes, indicated to be installed side-by-side in the same wall, shall be located 6" apart. All boxes shall be rigidly secured in the wall.
 - b. Steel Outlet boxes in fire walls and fire separation assemblies shall be installed in accordance with Virginia USBC 704.1.1 and 714.1.6.1 respectively. Therefore outlet box openings cannot exceed 16 square inches per outlet with 100 square inches limit per 100 square feet of wall area. Where outlet boxes are shown in opposite sides of the wall or assembly, the boxes shall be separated by a horizontal distance of not less than 24 inches.
 3. Exposed Masonry: The outlet boxes shall be placed in the wall to allow the masonry unit to be neatly set around the box, with the minimum of cutting and without injury to the exposed masonry face. The dimensioned heights of the outlets in the exposed masonry walls are intended to mean to the nearest masonry joint.
 4. Stud Walls: The outlet boxes shall utilize the wall brackets and extensions as required. The Electrical Trade shall coordinate with the dry wall or plaster lathe installation trade for fastening the outboard part of bracket to prevent any movement of the outlet box within the wall cavity.
- S. Conduit Termination: All rigid heavy wall metal conduits (G.R.S, I.M.C. and E.M.T.) shall terminate with locknut and bushing in all boxes, cabinets, panels, etc. Where a grounding means is not provided in the box, cabinet, panel, etc. provide a locknut and grounding bushing.

END OF SECTION 26 05 33

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SECTION 26 05 36 – CABLE MANAGEMENT FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL:

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Wall Brackets

1.3 SUBMITTALS:

- A. Submit shop drawings and product data on all equipment specified in this section in accordance with Section 26 05 00. Provide installation shop drawings in accordance with 3.01.B.3 below.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Open Wire Management Hardware:
 - 1. Brackets, Wall Metallic "C" shaped hanger by Mono-Systems, Inc. (The Hook).

2.2 MATERIALS AND USE:

- A. Wall Brackets: Wall brackets shall be multi-use "C" shaped hanger with 9/32 (7mm) diameter holes on four (4) sides. The center space shall provide the required cross section area for the cable being supported. The bracket shall be 6063-T6 aluminum with extruded box beam design (19mm x 12mm x 2mm thick walls), one (1) inch radii turns, smooth and free from sharp edges, two (2) 7mm holes in long side, one (1) 7mm hole in both short sides, and mounted with 6mm (1/4") hardware or supported with rod and clamps from structure.

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PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Wall Brackets: The metallic "C" shaped wall (or ceiling) brackets shall be wall mounted or suspended on a minimum of 24" centers for the support of Data, telephone, fire alarm, CATV, telephone communication and direct digital controls system (Division 23) wiring and cabling. Wall brackets shall be installed in continuous and even rows, above each corridor ceiling, spaced as indicated above. Coordinate installation of wall brackets with piping, ductwork, conduits, etc. All wall brackets shall be readily accessible for installation of low voltage wiring systems. Wall brackets are required in all corridors where cable tray is not installed and in additional locations as indicated on the drawings.

END OF SECTION 26 05 36

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SECTION 26 05 53 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL:

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Prepare and paint Division 26 equipment supports and miscellaneous materials located in Equipment Rooms, Mechanical Rooms, and other utility areas housing electrical equipment.
- B. Identification of conduits, junction boxes, pull boxes, cabinets, and Division 26 system enclosures.

1.3 WORK NOT INCLUDED:

- A. Painting of factory finished Division 26 Equipment.

1.4 RELATED WORK:

- A. Section 26 05 00 – Common Work Results For Electrical
- B. Section 26 05 33 – Raceway And Boxes For Electrical Systems

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS:

- A. Except as otherwise specified, materials shall be the products of the following manufacturers:
 - 1. Sherwin-Williams
 - 2. Pratt and Lambert
 - 3. Devoe
 - 4. Benjamin Moore

2.2 MATERIALS:

- A. Deliver all paints and materials to the project site in their original containers with all labels intact and legible at the time of use.

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- B. All paints, coatings and primers applied inside the weatherproofing system and applied on site shall meet the VOC requirements of Green Seal Standard GS-11, dated May 20, 1993.
- C. All anti-corrosive and anti-rust paints, coatings and primers applied inside the weatherproofing system and applied on site shall meet the VOC requirements of Green Seal Standard GS-03, dated January 7, 1997.
- D. Sherwin-Williams Industrial Maintenance Coatings System 4000 products are listed below to establish color and a standard of quality.
 - 1. All Hangers and Supports: One coat Series 54 Gloss Black Alkyd Enamel.
 - 2. Uninsulated diesel engine exhaust and other similar hot surfaces shall be painted with two coats of No. B59S8 Heat Resistant Aluminum.
 - 3. Exterior of belt guards and other protective guards shall be finished with two coats of Series 54 Alkyd Gloss Enamel No. SW4084 safety yellow color. Interior of and all items covered by belt guards and other protective guards shall be finished with two coats of No. SW4083 safety orange color.
 - 4. Factory Finished Equipment finishes shall be cleaned and properly touched up with equipment manufacturers touch-up paint unless finish is severely damaged or of unacceptable quality. In the latter case, the entire finish shall be restored in accordance with painted procedures herein specified.

PART 3 - EXECUTION

3.1 WORKMANSHIP:

- A. The work shall be accomplished by qualified mechanics skilled in the painting trade. Painting of equipment and other materials shall not commence until all testing is complete and systems are ready for operation. Materials shall be evenly spread, and smoothly flowed on without runs or sags. Each coat shall be thoroughly dry before application of succeeding coats.

3.2 PROTECTION OF WORK:

- A. The painters shall protect all adjacent surfaces with drop covers during the process of painting. Upon completion, paint spots, if any, shall be removed from all surfaces not intended to be painted.

3.3 PREPARATION OF SURFACE:

- A. Surfaces to be painted shall be completely dry before applying paint. Metal surfaces shall be cleaned with mineral spirits before applying materials. Rust and scale shall be removed by wire brushing or sanding. Galvanized surfaces shall be chemically treated with crystalline zinc phosphate in strict accordance with the manufacturer=s recommendations. Surfaces shall not be painted when the temperature is, or is likely to be, near the freezing point, nor when they are exposed to hot sun.

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3.4 IDENTIFICATION OF PIPES AND EQUIPMENT:

- A. After **all** painting is completed, operating and control parts of the equipment and systems such as control cabinets shall be properly identified with laminated engraved plastic nameplates fastened with sheet metal screws, bolts or permanent adhesive. Pressure sensitive tape is **not** acceptable. Identification symbols or designations shall be the same as shown on the contract documents.
- B. Boxes; Concealed and Surface Mounted: Each junction box, pullbox or similar enclosure shall be **neatly** identified by stencil marking which shall indicate service contained, and circuit numbers. Stencil letters shall be upper case (Capital) not less than one-half inch high and painted with Series 54 black gloss enamel.
- C. Conduit:
 - 1. Color bands shall be painted on each conduit where exposed or accessible. Bands shall be six inches wide and shall be placed along the conduit run immediately preceding the passage of the conduit through walls, ceiling or floor, and at each equipment connection or junction box. Where sub-bands are specified, they shall be two inches wide and centered in the color band. Adjacent to each color band, the abbreviation of the name of the service contained in the conduit shall be **neatly** stenciled. Stencil letters shall be one-half inch high upper case, applied with Series 54 black gloss enamel. Color bands shall be Series 54 Alkyd Gloss Enamel of colors listed below.
 - 2. In lieu of painted color bands, the Contractor may use pressure sensitive tape a minimum of 2" wide. Each color band will require wraps as necessary to provide the full 6" wide band with or without the 2" sub-band.
 - 3. In lieu of stenciled names of the pipe service, the Contractor may use vinyl "snap around" markers as manufactured by Seton, Bunting, Brady and Thomas & Betts (T&B).
 - 4. Color Banding:

<u>System</u>	<u>Abbrev./Color</u>	<u>Color Band</u>	<u>Color Sub-Bands</u>
120/208 Volts (Normal)	208V/Black	Black	Yellow
120/208 Volts (Emergency)	208V/Red	Black	Yellow
277/480 Volts (Normal)	480V/Black	Black	Orange
277/480 Volts (Emergency)	480V/Red	Black	Orange

- D. The control panel, and other similar systems shall have an engraved informational laminated nameplate with the installing trade's name, telephone number and address for the Owner to obtain preventive maintenance, service or parts. The nameplate shall include the job order number, shop number or other identification which will identify the related equipment.

If the above address and telephone number is a branch office, the main office or manufacturers address and telephone number shall be included.

END OF SECTION 26 05 53

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SECTION 26 09 23 – LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Switches
- B. Dimmers
- C. Low Voltage Lighting Controls
 - 1. Wallpods
 - 2. Daylighting Sensors
 - 3. Occupancy Sensors
- D. Low Voltage Lighting Control Equipment
- E. Plates
- F. Automatic Lighting Controls

1.3 RELATED WORK:

- A. Section 26 05 23 – Control Voltage Electrical Power Cables
- B. Section 26 05 33 – Raceway And Boxes For Electrical Systems
- C. Section 26 50 00 – Lighting

1.4 SUBMITTALS:

- A. Submit shop drawings, product data and wiring device samples in accordance with Sections 26 05 00.
- B. Submit Operation and Maintenance Manuals in accordance with Section 26 05 00.
- C. Low Voltage Lighting Control Systems: Furnish the following for each system:
 - 1. Building floor plans (1/8" = 1'- 0" scale) showing:
 - a. All lighting fixtures and low voltage control devices in their correct locations and configurations.

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- b. Separate plans showing control zones and orientations for all daylighting sensors.
 - c. Separate plans showing control zones and orientations for all occupancy and vacancy sensors.
2. System riser diagrams showing connections to all lighting fixtures and low voltage control devices.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

A. Switches [S] shall be as manufactured by:

1. Bryant,
2. Hubbell,
3. Cooper-Crouse Hind
4. Pass and Seymour (P&S)

All switches shall be by the same manufacturer.

B. Dimmers shall be as manufactured by:

1. Hubbell,
2. Leviton,
3. Lutron

C. Low Voltage Lighting Controls and Equipment [S] shall be as manufactured by:

1. Sensorswitch,
2. Hubbell,
3. Lutron

D. Wiring Device Plates [S] and Blank Plates [S] shall be as manufactured by:

1. Bryant,
2. Hubbell,
3. Cooper Crouse-Hinds,
4. Pass & Seymour (P&S)

E. Lighting Contactors [S] shall be as manufactured by:

1. Square D
2. ABB
3. ASCO

F. Automatic Lighting Controls shall be as manufactured by:

1. Sensorswitch,
2. Hubbell,
3. Lutron

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2.2 MATERIALS AND TYPE:

- A. All switches, dimmers, and other wiring devices shall be as indicated on drawings and specified hereinafter.
- B. Unless otherwise indicated on the drawings all switches shall be:
 - 1. Bryant "Tech-Spec" series,
 - 2. Hubbell HBL series (Industrial, Heavy-duty specification grade)
 - 3. Cooper Industrial Specification grade AC Quiet series
 - 4. Pass & Seymour (P&S) specification grade "PS" series
- C. The switches shall be complete with green (brass) hexhead grounding screw, back and side wired high impact polycarbonate, Lexan™, high impact thermoplastic or nylon toggle. Switch shall be rated for the voltage, poles, amperage and circuit configuration required.
- D. Plates: For all systems unless indicated otherwise.
 - 1. For Concealed Work: Stamped stainless steel type 302 with satin finish.
 - 2. For Wet Locations:
 - a. While in Use: Weatherproof NEMA-3R enclosure constructed of flame retardant U.V. stabilized polycarbonate, reinforced thermoplastic, die-cast metal or combinations of the above materials complete with sealing gaskets and stainless steel mounting screws; and meets OSHA and NEC requirements "WHILE IN USE". The cover shall be clear. Housing size shall depend on the wiring device being protected. Housing for receptacles shall allow both angled and straight cord connectors. As manufactured by Tay-Mac® Corp., P&S, Hubbell, Cooper Crouse-Hinds or acceptable equal.
 - b. While cover is Closed: Weatherproof NEMA-3R enclosure constructed of die-cast metal complete with sealing gaskets and stainless steel mounting screws; and meets OSHA and NEC requirements while cover is "Closed". As manufactured by P&S, Bryant, Hubbell, Cooper Crouse-Hinds or acceptable equal.
 - 3. For F.S. or F.D. Boxes (Interior Only): Die cast covers with gaskets, as manufactured by Crouse-Hinds, Appleton, Red Dot or acceptable equal.
 - 4. Screws: Heads to match plate material and finish.
 - 5. Provide blank plates for all unused outlets.
- E. Wiring Device and Plate Colors: Shall match existing colors of other devices such as receptacles. If a variety of colors exist in the respective building, device shall be white.
- F. Low Voltage Lighting Controls:
 - 1. Low Voltage Lighting Controls shall all have the following features:
 - a. Fully addressable and compatible with SensorSwitch nLight control CAT-5e network.
 - b. Complete with power supply and 2 RJ-45 ports.
 - c. Shall be configured and engraved as specified here-in and as indicated on the drawings.
 - d. 5 year product warranty.
 - 2. Wallpods, Low Voltage [O&M] [S]:
 - a. Graphic Wallpods:

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- 1) 3.5" Full-color touch screen.
 - 2) 16 On/Off/Dim controls and 16 scene controls with full user customization of all settings.
 - 3) Password protection for controls and set-up screens.
 - 4) Customizable screen saver image (.jpeg format) and onboard help screens.
 - 5) Operating temperature 14°F to 160°F.
 - 6) Sensorswitch nLight nPOD GFX or accepted equal by Hubbell or Lutron.
- b. Low Voltage Dimming and On/Off control Wallpods:
- 1) 1, 2 or 4 channel raise/lower with 0-10V dimming control.
 - 2) 1, 2 or 4 channel on/off.
 - 3) Operating temperature 14°F to 160°F.
 - 4) Sensorswitch nLight nPODM DX or accepted equal by Hubbell or Lutron.
- c. Low Voltage Scene control Wallpods:
- 1) Runs locally stored scenes.
 - 2) Runs remotely stored profiles from a gateway device. Remotely configurable and upgradeable.
 - 3) 1, 2 or 4 scene control.
 - 4) On/Off and Raise lower with 4 scene control.
 - 5) Operating temperature 14°F to 160°F.
 - 6) Sensorswitch nLight nPODM 1S/2S/4S or accepted equal by Hubbell or Lutron.
3. DayLighting Sensors, Low Voltage [O&M] [S]:
- a. Remotely configurable and upgradeable.
 - b. Automatic Set-Point Calibration.
 - c. Blink-back Set-Point (in footcandles).
 - d. Set-Point (0-200 fc)
 - e. Sunlight Discount Factor (1-8)
 - f. Occupied Bright Level (0-100%)
 - g. Unoccupied Dim Level (0-100%)
 - h. Photocell On/Off Transition Time (45 sec. – 25 min.)
 - i. Adaptive cloud delay to prevent cycling on cloudy days.
 - j. Push-Button Programmable.
 - k. Full On/Off switching control.
 - l. Recessed Ceiling Applications: Sensorswitch nLight nRM ADCX series or accepted equal by Hubbell or Lutron.
 - m. Surface Ceiling Applications: Sensorswitch nLight nCM ADC series or accepted equal by Hubbell or Lutron.
4. Occupancy Sensors, Low Voltage [O&M] [S]:
- a. Recessed Ceiling Mounted:
- 1) Dual technology; passive infrared and ultrasonic.
 - 2) Full 360° operation.
 - 3) Assorted lens choices for desired motion coverage.
 - 4) Minimum 24' diameter small motion coverage at 9' ceiling height.
 - 5) Minimum 48' diameter large motion coverage at 9' ceiling height.
 - 6) Sensorswitch nLight nRM PDT 9 (small motion) or nRM PDT 10 (large motion) or acceptable equals by Hubbell/Unenco, or Lutron.

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b. Surface Ceiling Mounted:

- 1) Dual technology; passive infrared and ultrasonic.
- 2) Full 360° operation.
- 3) Assorted lens choices for desired motion coverage.
- 4) Minimum 24' diameter small motion coverage at 9' ceiling height.
- 5) Minimum 48' diameter large motion coverage at 9' ceiling height.
- 6) Sensorswitch nLight nCM PDT 9 (small motion) or nCM PDT 10 (large motion) or acceptable equals by Hubbell/Unenco, or Lutron.

c. Wall Mounted:

- 1) Dual technology; passive infrared and ultrasonic.
- 2) Full 120° operation.
- 3) Small motion detection up to 40'.
- 4) Large motion detection up to 70'.
- 5) Beveled rear enclosure piece to facilitate corner mounting.
- 6) Ceiling mounting bracket for mounting heights over 10'.
- 7) Sensorswitch nLight nWV PDT 16 or acceptable equals by Hubbell/Unenco, or Lutron.

d. Corridor Wall Mounted:

- 1) Passive infrared technology.
- 2) Long narrow motion.
- 3) Linear coverage up to 130' at 10' mounting height.
- 4) Ceiling mounting bracket for mounting heights over 10'.
- 5) Sensorswitch nLight nHW 13 or acceptable equals by Hubbell/Unenco, or Lutron.

e. High Bay Surface Mounted:

- 1) Passive infrared technology.
- 2) Full 360° operation.
- 3) High bay and low bay lenses
- 4) Minimum 30' diameter detection at 15' mounting height.
- 5) Large motion detection at 35' mounting height.
- 6) Extra large motion detection at 45' mounting height.
- 7) Sensorswitch nLight nCM 6 or acceptable equals by Hubbell/Unenco, or Lutron.

f. Wall Switch:

- 1) Dual technology; passive infrared and ultrasonic.
- 2) Full 180° operation.
- 3) Minimum 40' diameter small motion detection.
- 4) Switching and dimming control.
- 5) Sensorswitch nLight nWSX PDT LV series or acceptable equals by Hubbell/Unenco, or Lutron. Include raise/lower dimming control option (DX) where required.

G. Low Voltage Lighting Control Equipment:

1. Low Voltage Lighting Equipment Components shall all have the following features:

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- a. Fully addressable and compatible with Sensorswitch nLight control CAT-5e network.
 - b. Complete with power supply and 2 RJ-45 ports.
 - c. Shall be configured and labeled as specified here-in and as indicated on the drawings.
 - d. 5 year product warranty.
2. Power/Relay Packs for Low Voltage Lighting Control [O&M] [S]:
- a. Select the proper Power/Relay from the selection below.
 - b. Linear Power/Relay Packs with dimming:
 - 1) For lighting fixtures capable of 0-10V dimming control that are not nLight capable from the factory.
 - 2) Maximum load 16A.
 - 3) Sensorswitch nLight nPP16 D Series Power Packs or acceptable equals by Hubbell/Unenco, or Lutron.
 - c. Secondary Relay Pack with phase control dimming:
 - 1) For lighting fixtures requiring low voltage dimming control that are not 0-10V compatible.
 - 2) For 2 wire ballast or 3 wire dimmable ballast.
 - 3) Dimming ranges: High (0-100%), Low (0-100%).
 - 4) Dimming offset: (-200% to 200%).
 - 5) Requires CAT-5e power.
 - 6) Sensorswitch nLight nSP5 PCD series lighting control relay or acceptable equals by Hubbell/Unenco, or Lutron.
 - d. For Switching of LED and T5 Fluorescent Lighting Loads:
 - 1) Maximum Load 16A.
 - 2) Combination unit includes power supply for up to 80ma. of bus load.
 - 3) Sensorswitch nLight nPP16 series or acceptable equals by Hubbell/Unenco, or Lutron.
 - e. For switching of line voltage non nLight lighting loads:
 - 1) Maximum Load 16A.
 - 2) Sensorswitch nLight nSP16 series slave relay pack or acceptable equals by Hubbell/Unenco, or Lutron.
 - f. For switching of low voltage non nLight lighting loads:
 - 1) Maximum Load 1A @ 40 VAC/VDC.
 - 2) Sensorswitch nLight nAR 40 series auxiliary low voltage relay or acceptable equals by Hubbell/Unenco, or Lutron.
3. Power Supplies [O&M] [S]:
- a. Power Supplies shall all have the following features:
 - 1) Power supplies shall operate on 120V and 277V power.
 - 2) Plenum Rated.
 - 3) Complete with elongated chase nipples for direct connection through a ½" knock-out to a standard junction box.

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- b. For Bus and System Power over CAT-5e (80ma): Sensorswitch nLight nPS 80 series or acceptable equals by Hubbell/Unenco, or Lutron.
 - c. For Power to nLight Bridges: Sensorswitch nLight PS 150 series or acceptable equals by Hubbell/Unenco, or Lutron.
 - d. For Power to nLight Gateway Control Units and Gateway Touch Screens: Sensorswitch nLight PS 250 series or acceptable equals by Hubbell/Unenco, or Lutron.
4. Backbone Devices [O&M] [S]: **(Global Communications between all rooms in the building is not required for this project)**
- a. Gateway:
 - 1) Automatically discovers nLight devices.
 - 2) 400 and 1500 device models available. Select the appropriate model based on the total amount of system lighting fixtures and devices.
 - 3) Provides system time clock.
 - 4) Provides an Ethernet interface for the required Sensorswitch SensorView software.
 - 5) Requires power supply as listed above.
 - 6) Include one (1) Sensorswitch nLight nGWY2 GFX Gateway Touch Screen with each Gateway.
 - 7) Sensorswitch nLight nGWY2 KIT or acceptable equals by Hubbell/Unenco, or Lutron.
 - b. Bridge:
 - 1) Increases the number of lighting control zones in an nLight lighting control system.
 - 2) Complete with 8 RJ-45 ports.
 - 3) Connects zones of daisy-chained nLight enabled devices.
 - 4) Acts as hubs to aggregate traffic from the connected downstream zones and as routers by forwarding information to the downstream zones.
 - 5) Requires power supply as listed above.
 - 6) Furnish required number of bridges necessary to completely connect all network devices to the gateway(s).
 - 7) Sensorswitch nLight nBRG 8 series or acceptable equals by Hubbell/Unenco, or Lutron.
 - c. Wireless Communication:
 - 1) Allows wireless communication to the nLight network using the required Sensorswitch SensorView software.
 - 2) Furnish devices as necessary for full wireless communication with the nLight network.
 - 3) Sensorswitch nLight nPP 16 WIFI or acceptable equals by Hubbell/Unenco, or Lutron.

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PART 3 - EXECUTION

3.1 INSTALLATION:

- A. All wiring devices shall be mounted at elevations indicated.
- B. Local switches shall be coordinated with the door swings to insure the proper location of the switch. Local switches shall be a minimum of 4" from door jamb trim. Refer to elevation for mounting outlet boxes at doors.
- C. Install plates on all outlets and wiring devices, with all four edges in continuous contact with finished wall surfaces without the use of mats or similar devices. Plaster fillings will not be permitted. Plates shall be installed with an alignment tolerance of 1/16 inch. The use of sectional device plates will not be permitted.
- D. Where the wall opening for a wall or casework outlet box is larger than a standard plate cover, repair the outlet opening to accept a standard size plate. "Jumbo" or "Junior Jumbo" device plates are not acceptable.
- E. Low Voltage Dimming and ON/OFF Control System: Provide all components and wiring necessary for a complete and functioning Low Voltage Dimming and ON/OFF control system as indicated. Furnish and Install all wallpods, occupancy sensors, lighting sensors, power supplies and dimming controls, cat 5e cable and miscellaneous appurtenances necessary for each complete and operating system. Drawing symbols indicate which lighting zones and spaces are to have low voltage (0-10V) Dimming and ON/OFF controls.
- F. Daylighting Sensors and Controls: Daylighting sensors are shown in spaces with LED lighting fixtures. Daylighting sensors and controls shall sense and dim these lighting fixtures via nLight CAT 5e network control of the fixtures. Dimming shall begin with fixtures located closest to exterior fenestration, and work inward in the space a minimum of 15' as appropriate for even total illumination of the space (A combination of daylighting and controlled lighting). In all cases daylighting control strategies must comply with the IECC, 2012 Paragraph C405.2.
- G. Occupancy Sensing and Control: The low voltage lighting control system shall be programmed as follows:
 - 1. When an occupant first enters a space with lighting enabled (fixtures off), the space shall illuminate to the 50% lighting power level. This requirement is based on ASHRAE 90.1, 2010 and applies to all spaces except those listed in Paragraph 9.4.1.a through d.
 - 2. At all times, the occupant's manual control of the space (via wallpods or network control) will override automatic controls.
- H. Vacancy Sensing and Control: In spaces containing occupancy sensors with a 'vs' designation, occupancy sensors shall be programmed as vacancy sensors (wallpod 'on,' occupancy sensor 'off').

END OF SECTION 26 09 23

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SECTION 26 50 00 - LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 WORK INCLUDED:

- A. Lighting Fixtures
- B. Lamps
- C. Drivers

1.3 RELATED WORK:

- A. Section 26 05 00 – Common Work Results For Electrical
- B. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables
- C. Section 26 05 23 – Control Voltage Electrical Power Cables
- D. Section 26 05 26 – Grounding And Bonding For Electrical Systems
- E. Section 26 05 33 – Raceway And Boxes For Electrical Systems

1.4 REFERENCES:

- A. The complete fixture and installation method including the LED lamps, fixture construction, drivers, connectors, communication modules, wiring, raceway, suspension system, fixture environment shall be in accordance with:
 - 1. Uniform Statewide Building Code for the Commonwealth of Virginia.
 - 2. N.E.C.
 - 3. Fixture and application use listed by U.L. Inc.
 - 4. Where applicable, all lamps shall meet the National Energy Policy Act.
 - 5. Where applicable, all power devices for lighting fixtures shall meet the minimum efficiency standards of National Appliance Energy Conservation Amendments.
 - 6. All above references shall be current issue in effect at time of bid.

1.5 SUBMITTALS:

- A. Submit shop drawings and product data in accordance with Section 26 05 00.

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1. Shop Drawings shall include:
 - a. Photometrics.
 - b. Dimensions.
 - c. Roughing-in requirements.
 - d. Point by point footcandle study for exterior post lighting.
 2. Product Data: Submit application, technical, and installation data.
- B. Submit Operation and Maintenance Manuals in accordance with Section 26 05 00.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. **Lighting Fixtures:** Lighting fixture manufacturer's names and catalog numbers are noted on drawings and are used to designate the type, general design, size, quality, etc., of fixtures desired [S][O/M][V].
- B. **Lamps [S]:**
 1. LED: Lamps, with electronic drivers, as scheduled on the drawings.
 2. LED Emergency Drivers: LED Emergency Drivers, marked with (B) on the drawings, shall be Bodine BSL20 Family and provide 20W of constant output power with a nominal output of 2000 lumens and a 90-minute maximum runtime.
 3. Generator Lighting Transfer Device (G): Provide a generator (lighting) transfer device to work in conjunction with the emergency power generation system to power the selected (normal power) LED lighting fixtures for egress lighting regardless of fixture wall switch position. The device shall consist of relay switching circuitry and fusing in a compact galvanized case. One (1) generator lighting device per fixture ballast to bypass the local wall switch (or time switch or contactor) allowing the building's emergency power to bring on normally powered switchable fixtures. The transfer device shall be suitable for damp locations.
 - a. NLight - nPP16 ER (on/off power pack for generator/inverter circuits, acts as a GTD) Series.
 - b. NLight - nPP16 D ER (on/off dimming power pack for generator/inverter circuits, acts as a GTD) Series.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Provide lighting fixtures complete with all required lamps, plates, rings, hangers, trim and all accessories necessary for a complete and secure installation. The number of lamps and lamp wattage is indicated as a prefix to the fixture type number. Contractor shall verify that the lighting fixtures' and ballasts' voltage conforms with the installation, the designated circuit voltage and the lighting fixture schedule.

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- B. All fixtures shall be adequately supported by fixture studs, conduit stems, steel rods or bar hangers. Fixtures shall not be mounted to or suspended from any mechanical system unless otherwise indicated.
- C. Recessed fixtures in plaster ceiling areas shall be installed in rolled metal plaster frames provided by the Electrical Trade.
- D. Before fixture order is placed, the Contractor will be responsible for checking type of ceiling in all spaces to determine if fixture type indicated is correct to fit ceiling encountered and if exposed fixture finish indicated is correct.
- E. All recessed light fixtures mounted in lay-in ceilings shall be fastened to the adjacent T-bars by Caddy #515 fasteners, or accepted equal. Support outlet boxes and fixtures from building structure independent of associated ceiling suspension system. Where a recessed 1' x 4', 2' x 2' or 2' x 4' lay-in LED fixture is indicated, the Electrical Trade shall provide a minimum of two (2) auxiliary support wires at the diagonal corners of the recessed fixture. These auxiliary support wires shall be equal to or greater than the support wires for the ceiling system and capable of supporting the fixture if the ceiling system support wires were compromised. The auxiliary support wires shall attach **directly** to the fixture, at the fixture manufacturer's indicated locations. These wires shall be attached and supported from the structure in the same manner as the ceiling system support wires. Where support wires are attached to the structural steel above the ceiling system, utilize CADDY catalog number 4H24 flange clamps or equal at the point of attachment to the structural steel.
- F. All recessed LED troffers shall have air supply slots in the side trim and heat removal through the lamp cavity, complete with air slot closure strips and heat transfer dampers, to function as return air openings directly to the plenum, unless indicated otherwise. The air slot closure strips and heat removal dampers shall be installed by the Mechanical Trade where required. The above air functions shall require all the recessed LED troffers, including the non-air function (static) recessed LED troffers, to have a "floating door" appearance.
- G. Lighting fixtures are shown in mechanical rooms for quantity and approximate location only. Coordinate exact location of all fixtures with Mechanical Trade. Some lighting fixtures will have to be mounted below ducts and pipes or on walls. Where possible, fixture to be approximately 8'-6" above floor to bottom.
- H. Provide spare fixtures for each school as noted on the drawings. Provide spares for only fixture types used on each school.

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