FLOYD COUNTY BOARD OF EDUCATION
Henry Webb, Superintendent
106 North Front Avenue
Prestonsburg, Kentucky 41653
Telephone (606) 886-2354 Fax (606) 886-8862
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Jeff Stumbo, Chair - District 3
Linda Gearheart, Vice-Chair - District 1
Dr. Chandra Varia, Member - District 2
Rhonda Meade, Member - District 4
Sherry Robinson - District 5

Consent Agenda Item (Action Item): Reject all bids for Floyd Central Scoreboards.

Applicable Statute or Regulation: General Powers and Duties of the Board/Capital Construction Process 702 KAR 4:180.

Fiscal/Budgetary Impact:

History/Background:

Recommended Action:
Reject All Bids. We will rebid the project.

Contact Person(s):
Dr. Henry Webb

Superintendent

Date: October 14, 2016

The Floyd County Board of Education does not discriminate on the basis of race, color, national origin, age, religion, marital status, sex, or disability in employment, educational programs, or activities as set forth in Title IX & VI, and in Section 504.

CONSTRUCTION MANAGEMENT SINCE 1908

VOLUME ONE
PROJECT MANUAL
BIDDING AND CONTRACT DOCUMENTS
SCOREBOARDS AND VIDEO DISPLAY SYSTEMS

FLOYD CENTRAL HIGH SCHOOL
889 KY RT. 680
EASTERN, KY 41622
BG 14-246

OWNER:
FLOYD COUNTY BOARD OF EDUCATION
106 N. FRONT AVE.
PRESTONSBURG, KY 41653

CONSTRUCTION MANAGER:
CODELL CONSTRUCTION COMPANY
P. O. BOX 17
WINCHESTER, KY 40392-0017
PHONE: 859/744-2222
FAX: 859/744-2225

ARCHITECT:
SHERMAN CARTER BARNHART
2405 HARRODSBURG ROAD
LEXINGTON, KY 40504
PHONE: (859) 224-1351
FAX: (859) 224-8446

August 16, 2016

SET #:_____

FLOYD CENTRAL HIGH SCHOOL
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SECTION 00010
ADVERTISEMENT FOR BIDS

FLOYD COUNTY BOARD OF EDUCATION (OWNER) will receive proposals through Codell Construction Company (CM) to furnish all labor and materials to complete the SCOREBOARDS AND VIDEO DISPLAY SYSTEMS at the FLOYD CENTRAL HIGH SCHOOL located at 889 KY ROUTE 680 WEST, PRESTONSBURG, KY 41653. Work is to be performed in accordance with plans, specifications, and addenda prepared by SHERMAN CARTER BARNHART (ARCHITECT), CMTA , INC. (MECHANICAL AND ELECTRICAL ENGINEER), BOCOOK ENGINEERING (CIVIL ENGINEER), and POAGE ENGINEERS & ASSOCIATES (STRUCTURAL ENGINEER).

The Owner reserves the right to reject any or all bids and to waive all informalities and/or technicalities where the best interest of the Owner can be served. Bid opening will be public, and contracts will be with the Owner.

Drawings, specifications, and the project manual may be obtained by contacting LYNN IMAGING @ 859/255-1021. Questions should be directed in writing to the C.M.'s attention:

WES DAVIS
Codell Construction Company
P. O. Box 17
Winchester, KY 40392
PHONE: (859) 744-2222
FAX: (859) 744-2225
CELL: (606) 794-6202
E-MAIL: wdavis@codellconstruction.com

A complete set of Drawings, Specifications, and the project manual requires a refundable deposit of $150.00 payable to FLOYD COUNTY BOARD OF EDUCATION. A check in the amount of $150.00 will be returned only if a bona fide bid is submitted and the Drawings and Specifications, including the Project Manual, are returned, prepaid, in good condition within 14 days after the bids are opened; otherwise, no refund will be due. If Drawings and Specifications are to be mailed, arrangements must be made with LYNN IMAGING @ 859/255-1021. Cost of mailing is to be paid for by the Bidder.

Bid documents will be on file at:

1. Owner: 106 N. Front Ave., Prestonsburg, KY 41653
2. Architect: 2405 Harrodsburg Road, Lexington, KY 40504
3. Mechanical Engineer: 2429 Members Way, Lexington, KY 40504
4. Civil Engineer: 259 North Arnold Avenue, Prestonsburg, KY 41653
5. Structural Engineer: 446 East High Street, Lexington, KY 40507
6. CM: 4475 Rockwell Road, Winchester, KY 40391
7. F. W. Dodge Digital Plan Room, 1116 Gregory Valley Drive, Hot Springs, AR 71913
8. Builders Exchange, 1035 Strader Drive, Suite 100, Lexington, KY 40505
9. Builders Exchange, 2300 Meadow Drive, Louisville, KY 40218
10. Consruct Connect, 30 Technology Pkwy. S., Ste. 500, Norcross, GA 30092

Bids will be due by September 15, 2016, at 2:00 PM, and will be opened at the ALLEN CENTRAL HIGH SCHOOL, 442 ROUTE 550, EASTERN, KY 41622. Each bid must be accompanied by a 5% Bid Bond. The bid will be submitted in duplicate on copies of the Form of Proposal located in the Project Manual. Both copies of the Form of Proposal and Bid Bond shall be placed in a manila envelope and have the Project and Bid Package number affixed. No Bidder may withdraw a bid submitted for a period of sixty (60) days after the date set for the opening of bids.

If a bidder wishes to mail a bid, it should be mailed to: MR. HENRY WEBB, SUPERINTENDENT, FLOYD COUNTY BOARD OF EDUCATION, 106 NORTH FRONT AVENUE, PRESTONSBURG KY 41653. If bid is mailed, it must be received prior to September 15, 2016, at 2:00 PM. Facsimile bids will **NOT** be allowed. Bids received after the deadline will not be opened.

A pre-bid conference is scheduled for September 1, 2016, at 2:00 PM at ALLEN CENTRAL HIGH SCHOOL, 442 ROUTE 550, EASTERN, KY 41622. All bidders are urged to attend this meeting.

The Project is to be complete within 60 calendar days from the date of the official Notice to Proceed, and liquidated damages are $1,000.00/day thereafter, if the completion date is not met. Successful Bidders are required to furnish a 100% Performance and Labor and Material Payment Bond for this Project.

The following bids are requested:

31 SCOREBOARDS AND VIDEO DISPLAY SYSTEM

FLOYD COUNTY BOARD OF EDUCATION
AND
CODELL CONSTRUCTION COMPANY

SECTION 00100

Kentucky Department of Education Version of AIA® Document A701™ – 1997

Instructions to Bidders

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

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Cite this document as "AIA Document A701™– 1997, Instructions to Bidders — KDE Version," or "AIA Document A701™–1997 — KDE Version."

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Kentucky Department of Education Version of AIA® Document A701™ – 1997

Instructions to Bidders

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and all Addenda issued prior to execution of the Contract.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201™, or in other Contract Documents are applicable to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Form of Proposal for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids. The Base Bid shall include all labor, material, bonds, and the cost of all direct purchase orders for material to be purchased by the Owner

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

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 The Bidder by making a Bid represents that:

§ 2.1.1 The Bidder has read and understands the Bidding Documents or Contract Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.

§ 2.1.2 The Bid is made in compliance with the Bidding Documents.

§ 2.1.3 The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.

1. The submission of a Bid will be construed as evidence that a site visit and examination of local conditions have been made. Later claims for labor, equipment, or materials required or difficulties encountered which could have been foreseen had such an examination been made will not be recognized.

§ 2.1.4 The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Copies

§ 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein. The deposit will be refunded to Bidders who submit a bona fide Bid and return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

§ 3.1.2 (Not Used)

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§ 3.1.3 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

§ 3.1.4 The Owner and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

§ 3.2 Interpretation or Correction of Bidding Documents

§ 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall at once report to the Architect and Construction Manager (if utilized) errors, inconsistencies or ambiguities discovered.

§ 3.2.2 Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect and Construction Manager (if utilized) at least seven days prior to the date for receipt of Bids.

§ 3.2.3 Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.

§ 3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.3 If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

§ 3.3.4 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to all who are known by the Architect and Construction Manager (if utilized) to have received a complete set of Bidding Documents.

§ 3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with the Bidding Documents.

§ 4.1.2 All blanks on the Form of Proposal shall be legibly executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.

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§ 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change."

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall make no additional stipulations on the Form of Proposal nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. The Bidder shall provide evidence of legal authority to perform within the jurisdiction of the Work. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

§ 4.2 Bid Security

§ 4.2.1 Each Bid greater than $25,000 shall be accompanied by bid security in the form of a Bond provided by a Surety Company authorized to do business in the Commonwealth of Kentucky, or in the form of a certified check, and in an amount equal to at least five percent (5%) of the Base Bid amount, pledging that the Bidder will enter into a contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payments of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

§ 4.2.2 If a surety bond is required, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney.

§ 4.2.3 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

§ 4.3 Submission of Bids

§ 4.3.1 All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.2 Bids shall be deposited at the designated location prior to the time and date for receipt of Bids as indicated in the Advertisement or Invitation to Bid or any extensions thereof made by Addendum. Bids received after the closing time and date for receipt and opening of Bids will be rejected and returned to the Bidder unopened.

§ 4.3.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.4 Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the time and date designated for the receipt of Bids, and each Bidder so agrees in submitting a Bid.

§ 4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder. Written confirmation over the signature of the Bidder shall be received, and date- and time-stamped by the receiving party on or before the date and time set for receipt of Bids. A change shall be so worded as not to reveal the amount of the original Bid.

§ 4.4.3 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

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§ 4.4.4 Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

At the discretion of the Owner, if stipulated in the Advertisement or Invitation to Bid, the properly identified Bids received on time will be publicly opened and will be read aloud.

§ 5.2 Rejection of Bids

The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

§ 5.3 Acceptance of Bid (Award) [Reference: KRS 45A.365]

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.

§ 5.3.2 The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

§ 6.1.1 Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted as a prerequisite to the issuance of Bidding Documents.

§ 6.1.2 In determining the qualifications and responsibilities of the Bidder, the Owner shall take into consideration the Bidder's skill, experience, facility, previous work standing, financial standing, capacity and ability to handle work in addition to that in progress, and quality and efficiency of construction plant and equipment proposed to be used on the project.

§ 6.2 (Not Used)

§ 6.3 Submittals

§ 6.3.1 Each Bidder shall submit as part of the Form of Proposal a list of subcontractors proposed for each major branch of work itemized and described in the specifications for the Project. The Bidder's listing of a subcontractor for a work category certifies that the subcontractor has in current employment, skilled staff and necessary equipment to complete that category. The Architect and Construction Manager (if utilized) will evaluate the ability of all listed subcontractors to complete the work and notify the Owner. Listing of the Bidder as the subcontractor may invalidate the Bid should the Architect's and Construction Manager's (if utilized) review indicate the bidder does not have skilled staff and equipment to complete the work category at the time the Bid was submitted.

.1 Changing subcontractors from those listed with the Form of Proposal is prohibited unless the bidder provides grounds for such a change that are consistent with provisions of the Instructions to Bidders. Said change shall be accompanied by a written explanation from the Bidder as well as a written release from the listed subcontractor. All letters shall be on original company stationary with original signatures from an officer in the company legally approved to act for the company. An unjustifiable change of subcontractors may invalidate the Bid. Any change to a proposed person or entity shall be addressed as noted in Section 6.3.3 of these Instructions to Bidders

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder in writing if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in the Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

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§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

§ 6.4 List of Materials, Suppliers, and Manufacturers

§ 6.4.1 Each Bidder shall submit a complete list of materials/equipment with supplier's and manufacturer's name in the form and manner indicated on the Form of Proposal and in compliance with materials and equipment specified.

§ 6.4.2 In addition to the list furnished with the Form of Proposal, the successful Bidder thereafter known as the Contractor, may be requested within thirty (30) calendar days after award of contract to furnish to the Architect and Construction Manager (if utilized) a more detailed and complete list of the materials and equipment, together with the manufacturer's or maker's name, brand and/or catalogue number, and product data or illustration thereof.

§ 6.4.3 Prior to the award of contract, the Architect and Construction Manager (if utilized) will make a preliminary check of the lists included with the Form of Proposal and advise the Bidder and the Owner of the acceptance thereof, and of such other actions as may be necessary in order to meet the requirements of the contract specifications. Should it develop that any of the materials or equipment named in the list do not meet the requirements of the project specifications, the Bidder shall be required to offer to the Owner other materials or equipment in compliance with the specifications at no change in contract price. Preliminary review and acceptance of the above list shall not relieve the Contractor of furnishing equipment and materials in accordance with the specifications.

§ 6.4.4 Written approval shall be obtained from the Architect regarding any material/equipment, supplier, and manufacturer substitution. Substitutions are permitted in the following instance:

.1 Failure to comply with contract requirements;
.2 Failure of the supplier or manufacturer to meet delivery schedules or other conditions of the contract;
.3 Written release by the supplier or manufacturer.

§ 6.4.5 The Owner reserves the right to reject the bid of any Bidder who fails to furnish the information required under Sections 6.3 and 6.4.

§ 6.5 Unit Prices

§ 6.5.1 Each Bidder shall submit as part of the Bid a list of unit prices as designated on the Form of Proposal.

§ 6.5.2 Unit prices are for changing or adjusting the scope or quantity of work from that indicated by the contract drawings and specifications.

§ 6.5.3 Unit prices shall include all labor, materials, equipment, appliances, supplies, overhead and profit.

§ 6.5.4 Only a single unit price per item shall be given and it shall apply for either more or less work than indicated or specified in the contract documents. In the event the contract is adjusted by unit prices, a change order shall be issued for the change and for the increased or decreased amount.

§ 6.5.5 Unit prices listed by the Bidder and accepted by the Owner shall apply to all phases of work whether the work is performed by the Bidder or by the Bidder's (Contractor's) subcontractors.

§ 6.5.6 For unit prices that apply to a lump sum Base Bid, the Owner reserves the right, prior to an award of contract, to negotiate, adjust and/or reject any price that is determined by the Architect, Construction Manager, or Owner to be excessive or unreasonable in amount.

§ 6.5.7 On line item total sum bids where Bidders are quoting firm unit prices for estimated quantities of units of work, the unit price is the Bid and is not subject to change, either by the Bidder or Owner. The Owner reserves the right to correct mathematical errors in extensions and additions by the Bidder. The Owner's corrected bid sum total shall take preference over the Bidder's computed bid sum total.

§ 6.6 Bid Division, Material Suppliers, and Purchase Orders

§ 6.6.1 This Section applies to projects with or without Bid Division (Multiple Prime Contracts), and those Projects that provide for direct purchase by the Owner of materials and equipment from Material Suppliers.

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§ 6.6.2 For Projects with Bid Division: General Construction and Concrete, Masonry, Plumbing, HVAC and Electrical Contractors shall provide with their Bid a breakdown of major material items (excluding sales tax). This breakdown shall include description of the item, name of the manufacturer, name of the supplier, and the amount of the supplier's quote. The Owner will issue Purchase Orders direct to the suppliers for these materials. The following shall be provided:

.1 Within four (4) days from the Bid Date, the low Bidder shall furnish to the Owner the list of material suppliers of the items listed on the bid breakdown, with authorization given to the Contractor to quote the materials listed and that the Supplier will furnish the listed materials to the Owner under the Owner's standard Purchase Order for the amount stated on the Contractor's bid breakdown. Failure of any Contractor to provide this written list of material suppliers with authorization will cause forfeiture of the bid security.

.2 The Contractor shall also guarantee to the Owner that materials listed in the breakdown to be purchased directly by the Owner shall comply with requirements of the Contract Documents and that the quantity of such material is sufficient to complete the Bid Division. The Performance and Payment Bonds required of the Contractor shall be in the combined amount of the materials designated in its bid to be acquired by Purchase Order by the Owner and all remaining items of cost in the respective Bid Division. Contractor shall provide an invoice from the supplier to the Owner with Contractor's Application for Payment.

.3 Material Suppliers will be paid the full amount of their invoices. Retainage that would otherwise be withheld from invoices submitted by and paid to a material supplier shall be withheld from the approved payment request of the Contractor. Refer to General Conditions for further requirements regarding retainage.

.a Lockers, Library, Kitchen, Shop, Technology, Science or other major equipment bid divisions shall provide with their Bid a breakout price for the material portions of the Bid (excluding sales tax). Award of contract will be based on the lump sum price of the accepted Bid that includes labor and materials. The Owner will issue a Purchase Order for the material and a contract for the labor and incidental materials. Retainage will be held on both the Purchase Order and the Contract in accordance with the General Conditions.

.b The language of the Bid Divisions is designed to outline and define the work in general to be included in a particular Bid Division and to prevent overlapping and conflicting requirements within other Bid Divisions. No Bidder shall use the omission of any item from this language as a basis for a claim for additional cost when such item is specified or indicated to be part of a complete and workable system.

.c It is the responsibility of the Bidder to determine which Bid Division or combination of Bid Divisions the Bidder desires to Bid.

§ 6.6.3 For Projects without Bid Division but with direct purchase by the Owner of materials and equipment from Material Suppliers, Contractors shall comply with paragraph 6.6.2 above as applicable to the Project. The Owner will issue Purchase Orders direct to the suppliers for these materials. Award of contract will be based on the lump sum price of the accepted bid that includes labor and materials. Retainage will be held on both the Purchase Orders and the Contract(s) in accordance with the General Conditions.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 Unless stipulated otherwise in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Bonds shall be executed by a surety company authorized to do business in Kentucky.

§ 7.1.2 The cost of such bonds shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312™–2010, Performance Bond and Payment Bond — KDE Version. Both bonds shall be written in the amount of the Contract Sum, being the total of the Base Bid, as described in Section 1.5 herein, and all Alternates accepted by the Owner.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

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§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101™–2007, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum — KDE Version, except for those Projects utilizing a Construction Manager the Agreement will be written on AIA Document A132™–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Advisor Edition — KDE Version. Owner-Contractor Agreements shall be valid only after written notice by the Kentucky Department of Education that the proposed Agreements are approved.

ARTICLE 9 PUBLIC WORKS ACT [Reference: KRS 337.505 to 337.550]

§ 9.1 Labor Regulations

§ 9.1.1 Work shall be performed in compliance with applicable provisions of the Kentucky Prevailing Wage Act on Public Works Projects, KRS 337.505 through KRS 337.550.

§ 9.1.2 Prevailing wage rates, included with the Bidding Documents, shall be paid on this Project if required under Section 10.1.1. The stipulated wage rates represent prevailing minimum wage rates of pay allowable and shall not be construed to mean that higher rates may not have to be paid in order to secure labor.

§ 9.1.3 Any Bidder and/or subcontract bidder in violation of any wage or work act provision (KRS 337.510 to KRS 337.550) and under citation by the Kentucky Department of Labor is prohibited by KRS 337.990 from bidding on or working on any and all public works contracts either in their name or in the name of any other company, firm, or other entity in which there is vested interest. No Bid shall be submitted by a prime Bidder or sub-bidder in violation of KRS Chapter 337. The responsibility of the qualifications of the sub-contract Bidder is solely that of the prime Bidder. The rejection of the subcontract Bidder and resubmittal of a qualified subcontract Bidder shall be addressed per the provisions of these Instructions to Bidders relating to subcontract Bidders (subcontractors) and materials.

§ 9.2 Davis-Bacon Act Provisions

Projects funded with Federal Funds shall comply with the Davis-Bacon Act (Subchapter IV of Chapter 31 of the Title 40 of the United States Code). Where the amount received from federal revenue sharing is less than 25 percent of the estimated total construction cost of a public school project, state law and not the federal applies to the wage rate and the prevailing wage scale to be used for the project (OAG 74-329). Refer to Supplementary Conditions for direction regarding application of federal rates, if included in the bidding documents, to this project. In the event both state and federal wage rates apply, the higher of the two rates shall be used to determine labor costs.

ARTICLE 10 TAXES

§ 10.1 Kentucky Sales and/or Use Tax [Reference KRS 139.495(1)]

Bidders are informed that construction contracts of the Commonwealth of Kentucky and political subdivisions are not exempt from the provisions of the Kentucky Sales and/or Use Tax, unless provisions are clearly noted in the bidding documents for the direct purchase of certain materials and equipment by the Owner. Materials and equipment which are to be submitted for direct purchase are as noted by the Architect or Construction Manager in the Form of Proposal and shall be limited to forty (40) items with a minimum price of $5,000 each. All other materials and equipment shall be included in the Contract Price and are subject to Kentucky Sales and/or Use Taxes. Current Sales and/or Use Tax shall be provided for and included in the bid amount as no adjustment will be permitted nor made after the receipt of bids.

§ 10.2 Federal Excise Tax

The Commonwealth of Kentucky and its political subdivisions are exempt from Federal Excise Tax.

ARTICLE 11 POST BID REVIEW AND MATERIAL SUBMITTAL

§ 11.1 Representative at Bid Opening

§ 11.1.1 Each prime Bidder shall have an authorized representative at the bid opening for submittal of the list of materials and equipment, and the post bid review which follows immediately after the opening and reading of bids.

§ 11.1.2 Following the opening of bids, the three (3) apparent low Bidders shall remain for a post-bid review, and shall submit a completed list of materials, equipment and suppliers within one (1) hour from the close of the reading of the bids. The list of materials and equipment shall be the listing contained in the Form of Proposal.

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§ 11.1.3 The post bid review, open to all bidders, will be conducted jointly with representatives of the Architect and Construction Manager (if utilized), Owner, and apparent low Bidder. Preliminary review will be directed toward Bidder's qualifications, list of subcontractors, list of materials and equipment, and unit prices.

ARTICLE 12 EQUAL EMPLOYMENT AND NONDISCRIMINATION

The Commonwealth of Kentucky and its political subdivisions are committed to equal job opportunities on public contracts and prohibited from discrimination based on race, creed, color, sex, age, religion, or national origin.

ARTICLE 13 CONFLICT OF INTEREST, GRATUITIES AND KICKBACKS, USE OF CONFIDENTIAL INFORMATION [Reference KRS 45A.455]

Conflict of Interest, Gratuities, Kickbacks, and Use of Confidential Information as described in KRS 45A.455 are expressly prohibited. Penalties for any violation under this statute are located in KRS 45A.990.

ARTICLE 14 KENTUCKY FAIRNESS IN CONSTRUCTION ACT OF 2007 [Reference KRS 371.400 to 371.425]

Projects constructed for school districts in the Commonwealth of Kentucky are subject to provisions of the Kentucky Fairness in Construction Act of 2007 as it relates to the right to litigate, the right to delay damages against the Owner, the right to file a mechanic's lien, prompt payment by Owners, amount of retainage that can be withheld and other provisions of the Act.

ARTICLE 15 KENTUCKY PREFERENCE LAW [Reference KRS 45A.490 to 45A.494]

§ 15.1 Projects constructed for school districts in the Commonwealth of Kentucky are subject to provisions of the reciprocal preference for Kentucky Preference for Resident Bidders law, KRS 45A.490 to KRS 45A.494. Reciprocal preference shall be given by public agencies to resident bidders.

§ 15.2 The Kentucky Finance and Administration Cabinet shall maintain a list of states that give to or require a preference for their own resident bidders, including details of the preference given to such bidders, to be used by public agencies in determining resident bidder preferences. The cabinet shall also promulgate administrative regulations in accordance with KRS Chapter 13A establishing the procedure by which the preferences required by this Section shall be given.

§ 15.3 The reciprocal preference as described in KRS 45A.490 to KRS 45A.494 above shall be applied in accordance with Kentucky Administrative Regulation 200 KAR 5:400.

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SECTION 00102 SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

1. RELATION TO INSTRUCTIONS TO BIDDERS

The following Supplemental Instructions to Bidders modify or add to the AIA Document A701-1997 INSTRUCTIONS TO BIDDERS. Where any Article of the Instructions is modified or any Paragraph, Subparagraph or Clause thereof is added, modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

2. ARTICLE 2 BIDDERS REPRESENTATIONS

A. Add the following Subparagraphs 2.1.5, 2.1.6 and 2.1.7 to Paragraph 2.1:

2.1.5 The Bidder shall be in compliance with equal employment and non-discrimination requirements of the Kentucky Equal Employment Act of 1978 and as defined in the Contract Documents.

2.1.6 The Bid shall be in compliance with requirements defined in the Bidding and Contract Documents for taxes and Kentucky Sales Tax.

3. ARTICLE 3 BIDDING DOCUMENTS

A. 3.2 INTERPRETATION OF BIDDING DOCUMENTS

(1) Modify Subparagraph 3.2.2 as follows:

(2) Add the following Clause 3.2.2.1 to Subparagraph 3.2.2:

3.2.2.1 Bidder's written questions may be sent by facsimile to SHERMAN CARTER BARNHART , at (859) 224-8446. Facsimile shall indicate the name of the project, "FLOYD CENTRAL HIGH SCHOOL " and be sent to the attention of the "Project Manager".

(3) Add the following Subparagraph 3.2.4 and Clause 3.2.4.1 to Paragraph 3.2:

3.2.4 The Bidder shall study all Drawings and Specifications and all conditions relating to the erection of the Work, and if any materials or labor evidently necessary for the proper and complete execution of the Work, which are not specifically mentioned and included in the drawings and specifications, although reasonably inferred therefrom, unless eliminated by special mention, or if any error or inconsistency appears therein, or in the event of a doubt arising as to the true intent and meaning of the Drawings or Specifications, the Bidder shall report it to the Architect at least seven (7) days in advance of the date for receiving the bid. The Architect will issue an addendum containing the proper information to all Bidders.

3.2.4.1 In case the Bidder fails to make such report and the Architect is not otherwise advised of such doubtful matter, the Bidder shall be responsible for providing the necessary labor and material reasonably inferred or evidently necessary for the proper execution and completion of the Work; for any additional work involved in the correction of apparent errors or inconsistencies and in executing the true extent and meaning of the Drawings and Specifications as interpreted by the Architect, and all such labor and

materials shall be provided at the Bidder's expense and under no condition shall any such labor and material be allowed as a claim for additional cost or time to the Owner.

(4) Add the following Subparagraph 3.2.5 to Paragraph 3.2:

3.2.5 DISCREPANCIES: Anything called for in the Specifications and not shown on the Drawings and shown on the Drawings but not called for in the Specifications shall be provided as included in both. Where the details, general drawings and specifications do not agree, the Bidder shall notify the Architect at least seven (7) days before the date of the receipt of bids and the Architect will issue an Addendum to all Bidders as to which of the defined scopes of work shall be followed and to clarify the Contract Documents. Failure to make this determination shall make the Bidder subject to providing either scope of work as may be later determined by the Architect. In case of discrepancies between the various parts of the Drawings and Specifications, the Bidder shall provide the defined scope of work as may be determined by the Architect.

B. 3.4 ADDENDA

(1) Modify the first sentence of Subparagraph 3.4.1 as follows:

Between the words "Addenda will be" and "to all who" delete the word "transmitted" and substitute with the words "mailed or delivered".

(2) Add the following sentence to the end of Subparagraph 3.4.1:

"A facsimile shall not be an acceptable delivery method."

4. ARTICLE 4 BIDDING PROCEDURE

A. 4.1 PREPARATION OF BIDS

(1) Add the following sentence to the end of Subparagraph 4.1.5:

"Voluntary alternate proposals and / or an alternate to the lump sum proposal shall not be considered."

(2) Modify Subparagraph 4.1.6 as follows:

a. Delete the first sentence, and;

b. In the second sentence between the words "in any" and "manner" delete the word "other".

B. 4.2 BID SECURITY

(1) Modify the first sentence in Subparagraph 4.2.2 as follows:

a. Delete the first word "If" of the first sentence.

b. Between the words " Bid Bond" and "and the attorney-in-fact" delete the words "unless otherwise provided in the Bidding Documents".

c. Add the following sentence to the end of Subparagraph 4.2.2:

"The Bid security shall be equal to 5 percent of the Bid amount."

C. 4.3 SUBMISSION OF BIDS

(1) Add the following to the end of the first sentence in Subparagraph 4.3.1:

"and the Bid closing date in month / day / year / and time of day followed by am or pm as applicable."

(2) Modify Subparagraph 4.3.2 as follows:

In the second sentence between the words "receipt of Bids" and "be returned" delete the word "will" and substitute with the word "may".

(3) Add the following Clause 4.3.2.1 and Sub-Clauses 4.3.2.1.1 and 4.3.2.1.2 to Subparagraph 4.3.2:

4.3.2.1 Bids received after the time and date for receipt of Bids may be considered for evaluation and award only if:

4.3.2.1.1 No other Bids were received within the legal advertisement period, and;

4.3.2.1.2 The re-advertisement time delay would seriously affect the operations of the Project as determined by the Owner.

(4) Add the following Subparagraph 4.3.5 and 4.3.6 to Paragraph 4.3:

4.3.5 Unless otherwise defined in the Bidding Documents, the required materials and equipment listing shall be submitted by the apparent low Bidder or Bidders no later than one (1) hour after the close of the reading of the Bids The materials and equipment listing shall be that listing bound in the Form of Proposal.

4.3.6 The Bidder shall have an authorized representative at the Bid opening for the purpose of submittal of the materials and equipment listing and post-Bid review of the preliminary apparent low Bid or Bids with the authority to respond to questions that may arise during the post-Bid preliminary review .

D. 4.4 MODIFICATIONS OR WITHDRAWAL OF BID

(1) Add the following to the end of the second sentence in Subparagraph 4.4.2:

"by a properly identified representative of the Bidder, whose name appears on the Bid envelop, either in person or mailed or delivered."

(2) Add the following sentence between the second and third sentence in Subparagraph 4.4.2:

"Notices for modifications or withdrawal received through electronic means shall not be acceptable."

(3) Add the following Subparagraph 4.4.4 to Paragraph 4.4:

4.4.4 Bid Security shall be in the amount of 5 percent of the Bid amount as modified or resubmitted.

(4) Add the following Subparagraph 4.4.5 to Paragraph 4.4:

4.4.5 Following the time and date designated for receipt of Bids, no Bidder may withdraw, modify or cancel it's submitted Bid for a period of thirty (30) calendar days without the Bid security being subject to forfeiture. The Bidder shall extend to the Owner the option of a thirty (30) calendar day extension to this initial calendar period upon written notice to the Bidder by the Owner, and received by the Bidder no later than the end of the initial calendar period.

5. ARTICLE 5 CONSIDERATION OF BIDS

A. 5.3 ACCEPTANCE OF BID (AWARD)

(1) Add the following to the end of the first sentence in Subparagraph 5.3.1:

"and it is in the interest of the Owner to accept it."

(2) Add the following Subparagraph 5.3.3 to Paragraph 5.3:

5.3.3 In the event that a Bidder's proposal is accepted by the Owner and such Bidder shall fail to execute the Contract and to deliver satisfactory required bonds within the time period stipulated for the delivery of such bonds, the Owner may at its option, determine that the awardee has abandoned the Contract. Thereupon the proposal shall become null and void and the Bid security, which accompanied the Bid, shall be forfeited to, and become the property of, the Owner as liquidated damages from such failure. If the Bidder executes the Contract and delivers satisfactory required bonds, the Bid security will be returned to the Bidder by the Owner.

6. ARTICLE 6 POST BID INFORMATION

A. 6.1 CONTRACTORS QUALIFICATION STATEMENT

(1) Add the following Subparagraph 6.1.1 to Paragraph 6.1:

6.1.1 The listing of more than one subcontractor in a work category shall invalidate a Bid.

(2) Add the following Subparagraph 6.1.2 to Paragraph 6.1:

6.1.2 The Owner will assume responsibility for all Kentucky sales tax relative to purchase order items as defined by the requirements in the Bidding and Contract Documents.

B. 6.3 SUBMITTALS

(1) Modify Subparagraph 6.3.1 as follows:

In the first sentence substitute "Construction Manager" for "Architect".

(2) Modify Subparagraph 6.3.2 as follows:

a. In the first sentence following the word "Owner" add "and Construction Manager";

b. Add the following sentence to the end of Subparagraph 6.3.2:

"The Bidder may be required by the Owner to provide additional information regarding the listed persons and entities proposed."

(3) Modify Subparagraph 6.3.3 as follows:

a. In the first sentence between the words "satisfaction of the" and "and Owner" substitute "Construction Manager" for "Architect" and between the words "or Architect," and "after due" add "or Construction Manager".

b. In the second sentence between the words "or entity with" and "adjustment in the" delete the word "an" and substitute with the word "no";
c. In the second sentence following the word "Alternate Bid" delete the remainder of the sentence "to cover the difference in cost occasioned by such substitution";

d. Delete the third sentence;

e. Delete the fourth sentence and substitute with the following:

"In the event of withdrawal, bid security will not be forfeited."

(4) Modify Subparagraph 6.3.4 as follows:

In the first sentence after the words "Owner and Architect", in both locations where they appear, add "and Construction Manager".

(5) Add the following Subparagraph 6.3.5 to Paragraph 6.3:

6.3.5 Materials and equipment proposed for the Work by the Bidder shall be in compliance with requirements defined in the Contract Documents. Prior to the execution of the Contract, the Owner will advise the Bidder of the tentative acceptability of such materials and equipment, subject to the satisfactory completion and approval of shop drawings, or direct such other action as may be necessary to meet the requirements of the Contract Documents. If any of the listed materials or equipment is determined not to meet the requirements of the Contract Documents, the Bidder shall provide other materials or equipment, which meet those requirements with no adjustment in the Base Bid or Alternate Bid. Tentative acceptability of the list of proposed materials and equipment by the Owner shall not relieve the Bidder, of the obligations to provide materials and equipment in accordance with the Contract Documents.

7. ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

A. 7.2 TIME OF DELIVERY AND FORM OF BONDS

(1) Modify Subparagraph 7.2.1 as follows:

In the first sentence between the words "not later than" and "the date of" delete the words "three days following".

(2) Add the following Clauses 7.2.1.1 and 7.2.1.2 to Subparagraph 7.2.1:

7.2.1.1 The Bidder, prior to commencement of the Work in response to a letter of intent, and prior to the execution of the Contract, may request approval from the Owner to a delivery extension of the required bonds to be no later than ten (10) calendar days following the date of the execution of the Contract. Such request shall include evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with bond requirements.

7.2.1.2 If the Bidder fails to deliver required bonds in accordance with Subparagraph 7.2, subject to approval of a delivery extension as herein defined, the Owner may, at it's option, determine that the Bidder has abandoned it's Bid and shall have forfeited the Bid security.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Refer to Instructions to Bidders, Article No. 3. 3.3 - Substitutions - Materials and Equipment and as modified by Supplementary Instructions to Bidders.

1.2 SUMMARY

A. This section specifies administrative and procedural requirements for handling requests for substitutions and includes the following:

1. Request for substitutions made prior to receipt of Bids.
2. Request for substitutions made after to receipt of Bids.
2. Request for substitutions made after award of the Contract.

B. Related Sections:

1. The Contractor's construction schedule is included under section. "Project Schedule".
2. The Schedule of Submittals is included under section, "Submittals".

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Except where the contract documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the contract documents. Such standards are made a part of the contract documents by reference. Individual sections indicate which codes and standards the Contractor must keep available at the project site for reference.

1.4 REQUEST FOR PRODUCT SUBSTITUTIONS - General:

A. Submit three (3) copies of each request for substitution and one (1) fully completed and signed copy of the "Request for Approval of Acceptable Product" available from the Construction Manager.

B. In each request, identify the product, or the fabrication on installation method to be replaced by the substitution. Include related Specification Section and drawing numbers and complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate with each request.

C. Provide complete Product Data, including drawings and descriptions of products, fabrication and installation procedures.

D. Provide samples, where applicable or requested.

E. Provide detailed comparison of significant qualities of the proposed substitution with those of the work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.

F. Certificate of Compliance: Provide certification by the Contractor to the effect that, in the Contractor's opinion, after thorough evaluation that the substitution proposed is in every significant respect equal to or better to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.

G. Substitution requests shall satisfy the following conditions. If the following conditions are not satisfied, the Architect will return requests without action except to record non-compliance with these requirements.

1. Requested substitution offers the Owner a substantial advantage in cost, time, energy conservation or other consideration, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to the Architect for redesign and evaluation services, compensation to the Construction Manager for coordination and evaluation services, and any similar considerations.
2. Requested substitution does not require extensive revisions to the Contract Documents as determined by the Architect.
3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. Substitution request is fully documented and properly submitted.
5. Requested substitution will not adversely affect Project Construction Schedule.
6. Requested substitution is contingent on receiving necessary approvals of Authorities Having Jurisdiction.
7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution provides specified Warranty.

1.5 REQUEST FOR PRODUCT SUBSTITUTIONS - made prior to receipt of Bids:

A. **Substitutions of other equipment and materials named in the specifications will be allowed only when approved by the Architect and defined in a Bid Addendum, provided that written request for approval of proposed product substitutions is received by the Construction Manager at least ten (10) days prior to the Bid date.** A copy of the request for substitution of mechanical and electrical equipment and materials shall be sent directly to the Mechanical and Electrical Engineer, as applicable.

B. Architect's action: After review by the Architect, such request, if approved, will be included in an addendum.

1.6 REQUEST FOR PRODUCT SUBSTITUTIONS – made after receipt of Bids:

A. A request for substitution of major equipment and materials named in the specifications and previously submitted by the Contractor and approved by the Architect, will be considered only for the following reasons:

1. Unavailability of material or equipment.
2. Inability of supplier to meet Contract schedule.
3. Technical noncompliance to specifications.

B. Provide a statement indicating the substitution's effect on the Contractor's construction schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time. If specified product cannot be provided within Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.

C. Provide complete cost information, including a proposal of the net change, if any in the Contract sum.

D. Contractor's waiver of rights to additional payment or time that may be subsequently become necessary, because of failure of proposed substitution to produce indicated results.

E. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for application indicated.

F. Substitution requests shall satisfy previous conditions defined herein and the following conditions. If the following conditions are not satisfied, the Architect will return requests without action except to record non-compliance with these requirements.

1. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

1.7 REQUEST FOR PRODUCT SUBSTITUTIONS – made after award of Contract:

A. A request for substitution in products, materials, and equipment required by Contract Documents proposed by the Contractor after Award of the Contract will be considered only for the following reasons:

1. Unavailability of material or equipment.
2. Inability of supplier to meet Contract schedule.
3. Technical noncompliance to specifications.

B. Certificate of Compliance: Provide certification by the Contractor to the effect that, in the Contractor's opinion, after thorough evaluation that the substitution proposed is in every significant respect equal to or better to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.

C. Substitution requests shall satisfy previous conditions for substitutions proposed before or after bidding as herein defined. If the conditions are not satisfied, the Architect will return requests without action except to record non-compliance with these requirements.

D. The following are not considered substitutions:

1. Substitutions requested by bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in this section for substitutions;
2. Revisions to Contract Documents requested by the Owner or Architect;
3. Specified options of products and construction methods included in Contract Documents;
4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

CERTIFICATE OF PRODUCT COMPLIANCE
FOR PROPOSED SUBSTITUTE

TO: _____

_____

_____

I, _____, being a duly authorized
(name)

representative of _____ the manufacturer, and/or
(company name)

distributor and/or sales representative of _____
(product name)

do hereby certify that the above named product complies in strict accordance with the Contract Documents for the construction of the **FLOYD CENTRAL HIGH SCHOOL ,** located at **889 KY RT. 680, EASTERN, KY 41622**, and that the product is compatible and fit for the intended use and incorporation into this Project.

Further, I understand that the Architect, Construction Manager, and Owner may rely on this certification.

_____
(Signed)

_____
(Signed)

Attached is supporting information.

BG No. _____

Date: _____ To: (Owner) Floyd County Board of Education

Project Name: Floyd Central High School Bid Package No. 31

City, County: Eastern, Floyd County, Kentucky

Name of Contractor: _____

Mailing Address: _____

Business Address: _____ Telephone: _____

E-mail Address: _____ Fax: _____

Having carefully examined the Instructions to Bidders, Contract Agreement, General Conditions, Supplemental Conditions, Specifications, and Drawings, for the above referenced project, the undersigned bidder proposes to furnish all labor, materials, equipment, tools, supplies, and temporary devices required to complete the work in accordance with the contract documents and any addenda listed below for the price stated herein.

Addendum _____ (Insert the addendum numbers received or the word "none" if no addendum received.)

BASE BID: For the construction required to complete the work, in accordance with the contract documents, I/We submit the following lump sum price of:

_____
Use Figures

_____ Dollars & _____ Cents
Use Words Use Words

ALTERNATE BIDS: (If applicable and denoted in the Bidding Documents)

For omission from or addition to those items, services, or construction specified in Bidding Documents by alternate number, the following lump sum price will be added or deducted from the base bid.

Alternate Bid No.	Alternate Description	+ (Add to the Base Bid)	- (Deduct from the Base Bid)	No Cost Change from the Base Bid)
Alt. Bid No. 1				☐
Alt. Bid No. 2				☐
Alt. Bid No. 3				☐
Alt. Bid No. 4				☐
Alt. Bid No. 5				☐
Alt. Bid No. 6				☐
Alt. Bid No. 7				☐
Alt. Bid No. 8				☐
Alt. Bid No. 9				☐
Alt. Bid No. 10				☐

A maximum of 10 Alternate Bids will be acceptable with each Base Bid. Do not add supplemental sheets for Alternate Bids to this document.

LIST OF PROPOSED SUBCONTRACTORS:

List on the lines below each major branch of work and the subcontractor involved with that portion of work. If the branch of work is to be done by the Contractor, so indicate.

The listing of more than one subcontractor in a work category shall invalidate the bid.

The listing of the bidder as the subcontractor for a work category certifies that the bidder has in current employment, skilled staff and necessary equipment to complete that category. The architect/engineer will evaluate the ability of all listed subcontractors to complete the work and notify the owner. Listing of the bidder as the subcontractor may invalidate the bid should the architect's review indicate bidder does not have skilled staff and equipment to complete the work category at the time the bid was submitted.

A maximum of 40 subcontractors will be acceptable with each bid. Do not add supplemental sheets for subcontractors to this document.

The bidder shall submit the list of subcontractors with the bid.

	BRANCH OF WORK (to be filled out by the Architect)	**SUBCONTRACTOR** (to be filled out by the contractor)
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		

	BRANCH OF WORK (to be filled out by the Architect)	**SUBCONTRACTOR** (to be filled out by the Contractor)
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
31.		
32.		
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37.		
38.		
39.		
40.		

LIST OF PROPOSED SUPPLIERS AND MANUFACTURERS:

List on the lines below each major material category for this project and the suppliers and manufacturers involved with that portion of work. Listing the supplier below means the Contractor is acknowledging authorization from the Supplier to include the Supplier in this bid.

The listing of more than one supplier or manufacturer in a material category shall invalidate the bid.

A maximum of 40 suppliers and manufacturers will be acceptable with each bid. Do not add supplemental sheets for suppliers to this document.

The bidder shall submit the list of suppliers and manufacturers within one (1) hour of the bid.

	MATERIAL DESCRIPTION BY SPECIFICATION DIVISION AND CATEGORY (to be filled out by the Architect or Contractor)	**SUPPLIER** (to be filled out by the Contractor)	**MANUFACTURER** (to be filled out by the Contractor)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			

	MATERIAL DESCRIPTION BY SPECIFICATION DIVISION AND CATEGORY (to be filled out by the Architect or Contractor)	**SUPPLIER** (to be filled out by the Contractor)	**MANUFACTURER** (to be filled out by the Contractor)
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
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31.			
32.			
33.			
34.			
35.			
36.			
37.			
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39.			
40.			

UNIT PRICES:

Indicate on the lines below those unit prices to determine any adjustment to the contract price due to changes in work or extra work performed under this contract. The unit prices shall include the furnishing of all labor and materials, cost of all items, and overhead and profit for the Contractor, as well as any subcontractor involved. These unit prices shall be listed in units of work.

A maximum of 40 unit prices will be acceptable with each bid. Do not add supplemental sheets for unit pricing to this document.

The bidder shall submit the list of unit prices within one (1) hour of the bid.

	WORK (to be filled out by the Architect)	**PRICE / UNIT** (to be filled out by the Contractor)	**UNIT** (to be filled out by the Contractor)
1.			
2.			
3.			
4.			
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11.			
12.			
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14.			
15.			
16.			
17.			
18.			
19.			

	WORK (to be filled out by the Architect)	**PRICE / UNIT** (to be filled out by the Contractor)	**UNIT** (to be filled out by the Contractor)
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
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DIRECT MATERIAL PURCHASES:

Indicate on the lines below those materials to be purchased directly by the Owner with a Purchase Order to be issued by the Owner to the individual suppliers. The value of the direct Purchase Order cannot be less than $5,000. Following the approval of bids, the Contractor shall formalize this list by completing and submitting the electronic Purchase Order Summary Form provided by KDE. Listing the supplier below means the Contractor is acknowledging authorization from the Supplier to include the Supplier in this bid.

A maximum of 50 POs will be acceptable with each bid. Do not add supplemental sheets for additional POs to this document.

The bidder shall submit the list of Purchase Orders within four (4) days of the bid.

	SUPPLIER (to be filled out by the Contractor)	**PURCHASE ORDER DESCRIPTION** (to be filled out by the Contractor)	**PURCHASE ORDER AMT.** (to be filled out by the Contractor)
1.			
2.			
3.			
4.			
5.			
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10.			
11.			
12.			
13.			
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18.			
19.			

	SUPPLIER (to be filled out by the Contractor)	**PURCHASE ORDER DESCRIPTION** (to be filled out by the Contractor)	**PURCHASE ORDER AMT.** (to be filled out by the Contractor)
20.			
21.			
22.			
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43.			
44.			

	SUPPLIER (to be filled out by the Contractor)	**PURCHASE ORDER DESCRIPTION** (to be filled out by the Contractor)	**PURCHASE ORDER AMT.** (to be filled out by the Contractor)
45.			
46.			
47.			
48.			
49.			
50.			

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS:

In the event that a bidder's proposal is accepted by the Owner and such bidder should fail to execute the contract within ten (10) consecutive days from the date of notification of the awarding of the contract, the Owner, at his option, may determine that the awardee has abandoned the contract. The bidder's proposal shall then become null and void, and the bid bond or certified check which accompanied it shall be forfeited to and become the property of the Owner as liquidated damages for failure to execute the contract.

The bidder hereby agrees that failure to submit herein above all required information and/or prices can cause disqualification of this proposal.

Submitted by:

NAME OF CONTRACTOR / BIDDER: _____

AUTHORIZED REPRESENTATIVE'S NAME: _____
Signature

AUTHORIZED REPRESENTATIVE'S NAME (printed): _____

AUTHORIZED REPRESENTATIVE'S TITLE: _____

NOTICE: Bid security must accompany this proposal if the Base Bid price is greater than of $25,000.

This form shall not be modified.

SECTION 00201
SUPPLEMENTAL FORM OF PROPOSAL – PAGE 1 OF 1
(MUST BE SUBMITTED WITH SECTION 00200 – FORM OF PROPOSAL)

BID PKG NO.	DESCRIPTION	QTY	UNIT	SUPPLIER	MANUFACTURER	BASE BID	Alt #: 1	Alt #: 2	Alt #: 3	Alt #: 4	Alt #: 5
31	CONDUIT	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	EROSION CONTROL	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	GROUT	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	MASONRY	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	MASONRY ACCESSORIES	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	SCOREBOARDS	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	STEEL	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	STONE	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____
31	WIRE	1	LS	_____	_____	$_____	$_____	$_____	$_____	$_____	$_____

PER THE KY. DEPT. OF REVENUE, "THE MATERIAL BREAK-OUT AMOUNT INDICATED BY A PROSPECTIVE BIDDER ON THEIR BID FORM IS FINAL. THE MATERIAL SUPPLIER AUTHORIZATION FORM STIPULATES THE AMOUNT AND IS VALIDATED VIA SIGNATURE BY THE SUPPLIER. IN ORDER TO QUALIFY FOR TAX EXEMPTION THE REVENUE CABINET REQUIRES THAT THE BID FOR THE LABOR COMPONENT AND THE MATERIAL COMPONENT FOR A GIVEN BID PACKAGE REMAIN SEPARATE."

"PURSUANT TO KRS 139.310 AND 103 KAR 26:070 IF A CONTRACTOR LISTS HIS OWN COMPANY AS THE SUPPLIER FOR BREAKOUT ITEMS, THE OWNER WILL NOT ISSUE A PURCHASE ORDER AND EXEMPTION CERTIFICATE. ACCORDINGLY, THE SALES AND USE TAX ON THE MATERIALS USED TO FULFILL THE TERMS OF THE CONTRACT WILL BE THE LIABILITY OF THE CONTRACTOR."

SECTION 00202

SUPPLEMENTAL FORM OF PROPOSAL - PAGE 1 OF 1

(MUST BE SUBMITTED WITH SECTION 00200 - FORM OF PROPOSAL)

CONFLICT OF INTEREST

It shall be a breach of ethical standards for any employee with procurement authority to participate directly in any proceeding or application; request for ruling or other determination; claim or controversy; or other particular matter pertaining to any contact or subcontract, and any solicitation or proposal therefore, in which to his knowledge:

a. he, or any member of his immediate family, has a financial interest herein; or

b. a business or organization which he or any member of his immediate family has a financial interest as an officer, director, trustee, partner, or employee is a party; or

c. any other person, business, shareholder or other stockholder, or organization with whom he or any member of his immediate family is negotiating or had an arrangement concerning prospective employment is a party. Direct or indirect participation shall include, but not be limited to, involvement through decision, approval, disapproval, recommendation, preparation of any part of a purchase request, influencing the content of any specification or purchase standard, rendering of advice, investigating, auditing or in any other advisory capacity.

It is a violation of Kentucky law for any board member or employee, or a member of their immediate family, to have a pecuniary interest either directly or indirectly in an amount exceeding $25.00 per year in any purchase of goods or services by the FLOYD COUNTY BOARD OF EDUCATION. Violation of this provision subjects the member or employee to forfeiture of their position and/or employment with the FLOYD COUNTY BOARD OF EDUCATION.

I hereby certify that no member of my immediate family is an employee or member of FLOYD COUNTY BOARD OF EDUCATION.

_____

Signature

_____

Date

References: KRS I56.480, OAG 80-32, Model Procurement Code 45A.455

Note: This certificate must be signed and attached to the Form of Proposal in order for Bid to be qualified.

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)
FLOYD COUNTY BOARD OF EDUCATION
106 NORTH FRONT AVENUE
PRESTONSBURG, KENTUCKY

BOND AMOUNT: $

PROJECT:
(Name, location or address, and Project number, if any)
FLOYD CENTRAL HIGH SCHOOL

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, 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. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

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User Notes:
(811100212)

Init.
/

Signed and sealed this _____ day of _____, 20

	(Contractor as Principal) *(Seal)*
(Witness)	*(Title)*
	(Surety) *(Seal)*
(Witness)	*(Title)*

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User Notes:
(811100212)

SECTION 00280

KENTUCKY DEPARTMENT OF EDUCATION
702 KAR 4:160

PURCHASE ORDER

Board of Education: FLOYD
315 PARK AVENUE
HAZARD, KY 41701

Kentucky Sales Tax Exemption Number: B-371

Date of Order:

Vendor Name:

Vendor Address:

Vendor Phone:

Vendor Email:

Bill To: FLOYD CO. BOARD OF EDUCATION

Bill to Address: C/O

Ship To: FLOYD CENTRAL HIGH SCHOOL

Ship to Address: 889 KY RT. 680
EASTERN, KY 41622

Attention of:

BG# 14-246

District PO Number:

(THIS PURCHASE ORDER NUMBER MUST APPEAR ON ALL PACKAGES, INVOICES AND SHIPPING PAPERS)

Project Name: WEST PERRY ELEMENTARY SCHOOL

Bid Package No.:

Specification Section:
(IF APPLICABLE)

Material Description / Category:

Facility Name: FLOYD CENTRAL HIGH SCHOOL

AUTHORIZATION

THE ATTACHED TERMS & CONDITIONS ARE HEREBY ACKNOWLEDGED AND MADE PART OF THIS ORDER.

Owner Authorized Name: HENRY WEBB

Owner Authorized Signature:

Owner Authorization Date:

Vendor Authorized Name:

Vendor Authorized Signature:

Vendor Authorization Date:

The following project contacts must be notified 48 hours in advance of delivery to jobsite.

Contact Name	Phone Number	Contact Name	Phone Number
WES DAVIS	**859/794-6202**		

Furnish the necessary materials to complete the following bid package(s) / specification section(s) in its entirety. All materials shall be in accordance with the requirements of the Contract.

ITEM NO.	QUANTITY	ITEM DESCRIPTION	UNIT PRICE	TOTAL
1	LUMP SUM			
		TOTAL PURCHASE ORDER		

TERMS & CONDITIONS OF PURCHASE ORDER

1. Drawings, catalogs, cut sheets, or samples shall be submitted for approval.
2. All invoices shall be sent to the contractor/subcontractor designated on the purchase order for approval. No invoices shall be sent directly to the Board of Education (Owner) for payment.
3. All invoices shall reference the purchase order number.
4. No change in, modification of, or revision of this order shall be valid unless in writing and signed by the Owner.
5. Vendor agrees to observe and comply with all applicable federal, state and locals laws, rules, ordinances and regulations in performance of this order.
6. Vendor shall not assign this order or any right hereunder without first having obtained the written consent of the Owner.
7. Deliveries are to be made in accordance with the Owner's schedule, as directed by the General Contractor (GC), Construction Manager (CM) or Qualified Provider (QP).
8. The Owner may cancel this purchase order in whole or in part in the event that the vendor fails or refuses to deliver any of the items purchased, within the time provided, or otherwise violates any of the conditions of this purchase order, or if it becomes evident that the vendor is not providing materials in accordance with the specifications or with such diligence as to permit delivery on or before the delivery date.
9. The vendor agrees to deliver the items to the supplied hereunder free and clear of all liens, encumbrances and claims.
10. If any of the goods covered under this purchase order are found to be defective in material or workmanship, or otherwise not in conformity with the requirements of this order, the Owner, in addition to the other rights which it may have under warranty or otherwise, shall have the right to reject the same or require that such articles or materials be corrected or replaced promptly with satisfactory materials or workmanship.
11. By acknowledging receipt of this order, by performing the designated work or any portion thereof, or by shipping the designated goods, the vendor agrees to the terms and conditions outlined.
12. This purchase order shall be governed in all respects by the laws of the Commonwealth of Kentucky.
13. In the event the quantities of materials supplied via this purchase order are insufficient to complete the work, the GC, CM or QP shall, at no expense to the Owner, provide such materials as necessary to complete the work.
14. In the event that at the completion of the work the vendor has not submitted invoices totaling the value of this purchase order, this purchase order shall be considered complete and closed.

SECTION 00300

Kentucky Department of Education Version of AIA® Document A232™ – 2009

General Conditions of the Contract for Construction,
Construction Manager as Adviser Edition

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

This version of AIA Document A232™–2009 is modified by the Kentucky Department of Education. Publication of this version of AIA Document A232–2009 does not imply the American Institute of Architects' endorsement of any modification by the Kentucky Department of Education. A comparative version of AIA Document A232–2009 showing additions and deletions by the Kentucky Department of Education is available for review on the Kentucky Department of Education Web site.

Cite this document as "AIA Document A232™–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition — KDE Version," or "AIA Document A232™–2009 — KDE Version."

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Kentucky Department of Education Version of AIA® Document A232™ – 2009

General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:
(Name, and location or address)

THE CONSTRUCTION MANAGER:
(Name, legal status and address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

KENTUCKY DEPARTMENT OF EDUCATION

This version of AIA Document A232–2009 is modified by the Kentucky Department of Education. Publication of this version of AIA Document A232 does not imply the American Institute of Architects' endorsement of any modification by the Kentucky Department of Education. A comparative version of AIA Document A232–2009 showing additions and deletions by the Kentucky Department of Education is available for review on the Kentucky Department of Education Web site.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with KDE versions of AIA Documents A132™–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents. The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement), and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Owner direct Purchase Orders, Drawings, Specifications, Addenda issued prior to execution of the Contract, 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 enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of addenda relating to bidding requirements).*

§ 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 Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their 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 other Multiple Prime Contractors and by the Owner's own forces, including persons or entities under separate contracts not administered by the Construction Manager.

§ 1.1.5 The Drawings. The Drawings are the graphic and pictorial portions of the Contract Documents 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, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker. The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.1.9 Definitions. Wherever used in these General Conditions or in other contract documents, the following terms have the meaning indicated which are applicable to both the singular and plural thereof:

.1 "Provide" as used through the specifications shall mean furnish, install, and pay for.

.2 "Furnish" means supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance, except as otherwise defined in greater detail.

.3 "Install" means, except as otherwise defined in greater detail, to describe operations at project site including unloading, storage, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, furnishing, curing, protecting, cleaning and similar operations, as applicable in each instance.

.4 "Installer" means the entity (person or firm) engaged by Contractor or its subcontractor for performance of a particular unit of work at project site, including installation, erection, application and similar

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required operations. It is a general requirement that such entities (Installers) be expert in operations they are engaged to perform.

.5 "Owner Furnished-Contractor Installed (OFCI)" means equipment or components of a system that are purchased by the Owner and furnished to the Contractor for installation in the project. The Contractor shall receive, store, protect, install, connect, and test each item unless otherwise indicated.

.6 "Contractor Furnished-Contractor Installed (CFCI)" means equipment or components of a system that are purchased, furnished, and installed by the Contractor.

.7 "Owner Furnished-Owner Installed (OFOI)" means equipment or components of a system that are purchased, furnished, and installed by the Owner or his vendors.

.8 "Material Supplier" means a person or organization who has a direct Purchase Order responsibility to the Owner. Purchase Order amount as bid shall include all costs of delivery to the job site. Material Supplier assumes all responsibility for materials until delivery is accepted by the Owner. Material Supplier shall guarantee all materials furnished under a purchase order to be in accordance with the requirements of the contract documents. This guarantee shall extend through the construction period and one (1) year from the date of substantial completion upon final acceptance by the Owner of the Project. The designated Contractor or Subcontractor responsible for installation of Purchase Order material or equipment shall supervise and accept delivery, unload, handle, store, layout and install the items. Upon delivery, the designated contractor shall verify product suitability, quantity, quality and condition as soon as it can be ascertained and shall accept care, custody and control responsibility as if it were his own purchase. Any damage or loss after acceptance will be the responsibility of the designated contractor or subcontractor.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 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 indicated results. The Contractor shall make a thorough examination of the site and study all drawings and specifications and all conditions relating to the erection of the work and if any materials or labor evidently necessary for the proper and complete execution of the work, which are not specifically mentioned although reasonably inferred therefrom, shall be included in the work. In the event of a doubt arising as to the true intent and meaning of the drawings or specifications, the Contractor shall report it at once to the Architect. The Architect shall furnish with reasonable promptness, additional instructions, by means of drawings or otherwise necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the contract documents, true developments thereof and reasonably inferable therefrom. The work shall be executed in conformity therewith and the Contractor shall do no work without proper drawings and instructions. If the Contractor proceeds contrary to the above instructions, all such labor and material costs shall be provided at the Contractor's expense. Should any inconsistency appear in the Drawings or Specifications, the Contractor, before proceeding with the work must make mention of the same to the Architect for proper interpretation, and in no case proceed with the work in uncertainty or with insufficient drawings.

§ 1.2.2 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.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

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.

Init.

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§ 1.5 Ownership and Use of Drawings, Specifications and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. 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, or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 Transmission of Data in Digital Form

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner 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 Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Article 4, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.1.3 All notices (relating to any part of this contract) to Contractors from the Owner shall be in writing and considered delivered and the service thereof completed, when the notice is posted, by registered mail, to the Contractor at his last address or delivered in person to the Contractor or his authorized representative on the Project.

§ 2.2 Information and Services Required of the Owner

§ 2.2.1 (Not Used)

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, 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. Unless otherwise provided under the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit.

§ 2.2.3 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. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

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§ 2.2.6 The Owner shall endeavor to forward all communications to the Contractor through the Construction Manager and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents.

§ 2.3 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to 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 Section 6.1.3.

§ 2.4 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect, after consultation with the Construction Manager. 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 General

§ 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 Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The plural term "Multiple Prime Contractors" refers to persons or entities who perform construction under contracts with the Owner that are administered by the Construction Manager. The term does not include the Owner's own forces, including persons or entities under separate contracts not administered by the Construction Manager.

§ 3.1.3 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.4 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 Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 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 the Contract Documents give other specific instruction concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner, the Construction Manager, and the Architect and shall not proceed with that portion of the Work without further written instructions from the Architect, through the Construction Manager. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 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 for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, 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.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive.

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

§ 3.5 Warranty

The Contractor warrants to the Owner, Construction Manager, and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform with the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's

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warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 Taxes

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

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay for other permits, fees, licenses and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect, in consultation with the Construction Manager, determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner, Construction Manager, and Contractor in writing, stating the reasons. If the Owner or Contractor disputes the Architect's determination or recommendation, either party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 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 to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:

.1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 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 but not in the allowances; and

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.3 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 Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and Architect through the Construction Manager, the name and qualifications of a proposed superintendent. The Construction Manager may reply within 14 days to the Contractor in writing stating (1) whether the Owner, the Construction Manager, or the Architect has reasonable objection to the proposed superintendent or (2) that any of them require additional time to review. Failure of the Construction Manager to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information and the Construction Manager's approval a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project schedule to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Multiple Prime Contractors or the construction or operations of the Owner's own forces.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter update it as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Construction Manager's and Architect's approval. The Architect and Construction Manager's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Construction Manager and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager and Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager and Architect and incorporated into the approved Project schedule.

§ 3.11 Documents and Samples at the Site

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These documents shall be available to the Architect and delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

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§ 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.

§ 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. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect and Construction Manager is subject to the limitations of Sections 4.2.9 through 4.2.11. Informational submittals upon which the Construction Manager and Architect are not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Construction Manager Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the Project submittal schedule approved by the Construction Manager and Architect, or in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Multiple Prime Contractors or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples and similar submittals with related documents submitted by other Multiple Prime Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been reviewed and approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that 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 Construction Manager and Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the 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 Construction Manager and Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design

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professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site.

§ 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. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by 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's own forces or of other Multiple Prime 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's own forces or by other Multiple Prime Contractors except with written consent of the Construction Manager, Owner and such other Multiple Prime Contractors; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the other Multiple Prime Contractors or the Owner the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager and Architect access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner, Construction Manager 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 or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner, Architect, or Construction Manager. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect through the Construction Manager.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees,

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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 (other than the Work itself) but only to the extent caused by the 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 that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 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 Section 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 workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 4.1 General

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 The Owner shall retain a construction manager lawfully licensed to practice construction management or an entity lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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

§ 4.1.4 If the employment of the Construction Manager or Architect is terminated, the Owner shall employ a successor construction manager or architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner and Construction Manager (1) known deviations from the Contract Documents and from the most recent Project schedule prepared by the Construction Manager, and (2) defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner reasonably informed of the progress of the Work, and will report to the Owner and Architect (1) known deviations from the Contract Documents and the most recent Project schedule, and (2) defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Multiple Prime Contractors in accordance with the latest approved Project schedule. The Construction Manager will establish an overall construction schedule based on the milestone dates. A copy of the schedule shall be displayed at the Project

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site. The Construction Manager shall update this schedule periodically if required and establish new milestone dates. It shall be each Contractor's responsibility to keep advised of the current schedule and the effects upon his work.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and Architect will not have control over, or charge of, construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of or be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 **Communications Facilitating Contract Administration.** Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Construction Manager, and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents. 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 other Multiple Prime Contractors shall be through the Construction Manager and shall be contemporaneously provided to the Architect if those communications are about matters arising out of or related to the Contract Documents. Communications by and with the Owner's own forces shall be through the Owner.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents and will notify each other about the rejection. The Construction Manager shall determine in general whether the Work of the Contractor is being performed in accordance with the requirements of the Contract Documents and notify the Owner, Contractor and Architect of defects and deficiencies in the Work. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require additional inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, upon written authorization of the Owner, whether or not such Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them 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 Construction Manager to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data and Samples. Where there are Multiple Prime Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from Contractor and other Multiple Prime Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.10 The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.11 Review of the Contractor's submittals by the Construction Manager and Architect 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

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responsibility of the Contractor as required by the Contract Documents. The Construction Manager and Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Construction Manager and Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Construction Manager and Architect, 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.

§ 4.2.12 The Construction Manager will prepare Change Orders and Construction Change Directives.

§ 4.2.13 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7. and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.14 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.15 The Construction Manager will assist the Architect in conducting inspections to determine the dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.16 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.

§ 4.2.17 The Architect will interpret and decide matters concerning performance under, and requirements of the Contract Documents on written request of the Construction Manager, Owner or Contractor through the Construction Manager. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.18 Interpretations and decisions 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 and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.19 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.20 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing to the Construction Manager to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

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 other Multiple Prime Contractors or subcontractors of other Multiple Prime Contractors.

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§ 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 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Construction Manager for review by the Owner, Construction Manager and 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. The Construction Manager may reply within 14 days to the Contractor in writing stating (1) whether the Owner, the Construction Manager or the Architect has reasonable objection to any such proposed person or entity or, (2) that the Construction Manager, Architect or Owner requires additional time for review. Failure of the Construction Manager, Owner, or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager 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, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time 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 substitute a Subcontractor, person or entity previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

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, including responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager 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 Contractor 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 that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 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 that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

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§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity. If the Owner assigns the subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, which include persons or entities under separate contracts not administered by the Construction Manager, and to award other 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. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces including persons or entities under separate contracts not administered by the Construction Manager, the Owner shall provide for coordination of such forces with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11 and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces, Construction Manager and other Multiple Prime Contractors reasonable opportunity for introduction and storage 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's own forces or other Multiple Prime Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Construction Manager and Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's own forces or other Multiple Prime Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a separate contractor or to other Multiple Prime Contractors because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces or other Multiple Prime Contractors.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors, or other Multiple Prime Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and other Multiple Prime Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, other Multiple Prime 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, the Owner may clean up and the Construction Manager, with notice to the Architect, will allocate the cost among those responsible.

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ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 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 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor; a Construction Change Directive requires agreement by the Owner, Construction Manager 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 alone.

§ 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.

§ 7.1.4 A proposed Change in the Work equal to or exceeding $25,000, additive or deductive, shall be subject to approval by the Kentucky Department of Education prior to execution of the Change Order by the Owner.

§ 7.2 Change Orders

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

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

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager and Architect, directing a change in the Work prior to agreement on 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 Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so 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.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager and 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.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement 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.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine the method and the adjustment on the basis of reasonable expenditures and

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savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers compensation insurance;

.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and

.5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 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 Construction Manager and 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.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Construction Manager and 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 the Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect has 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 intent of the Contract Documents. Such changes will be effected by written order issued through the Construction Manager and shall be binding on the Owner and Contractor.

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 Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 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 confirms 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 and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner, Owner's own forces, Construction Manager, Architect, any of the other Multiple Prime Contractors or an employee of any of them, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration, or by other causes that the Architect, based on the recommendation of the Construction Manager, determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

§ 8.4 Liquidated Damages

§ 8.4.1 If the Contractor fails to substantially complete Work to be performed under the Contract by and at applicable Contract Time, including any extension of time granted under General Conditions, and as actual damages for delay in completion of Work are impossible to determine, the Contractor and his Surety shall be liable for and shall pay to the Owner the sum of
($), not as a penalty, but as fixed, agreed and liquidated damages for each calendar day of delay until the Contract Work is substantially completed as defined herein. The Owner shall have the right to deduct liquidated damages from money in hand otherwise due, or to become due, to the Contractor, or to sue and recover compensation for damages for failure to substantially complete the Work within the time stipulated herein. Said liquidated damages shall cease to accrue from the date of Substantial Completion.

§ 8.4.2 The Contractor shall not be charged with liquidated damages or any excess cost when delay in completion of the work is due

.1 to any preference, priority or allocation order duly issued by the government;

.2 to unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather;

.3 to any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (.1) or (.2) of this Section.

§ 8.4.3 When the conditions of Section 8.4.2 apply, the Contractor shall, within fifteen (15) days of the occurrence of the delay event, notify the Architect and Construction Manager in writing. Notice of the extent of the claim with supporting data shall be delivered to the Architect and Construction Manager within forty-five (45) days of such occurrence. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order. In no event shall any delays or extensions of time be construed as cause or justification for payment of extra compensation to the Contractor.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

Where the Contract is based on a Stipulated Sum, the Contractor shall submit to the Construction Manager, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. In the event there is one Contractor, the Construction Manager shall forward to the Architect the Contractor's schedule of values. If there are Multiple Prime Contractors

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responsible for performing different portions of the Project, the Construction Manager shall forward the Multiple Prime Contractors' schedules of values only if requested by the Architect.

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner, Construction Manager or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Construction Manager and Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier unless such Work has been performed by others whom the Contractor intends to pay.

§ 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 the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 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 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.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either issue to the Owner a Certificate for Payment, with a copy to the Construction Manager, for such amount as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there are Multiple Prime Contractors performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives the Multiple Prime Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Multiple Prime Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Multiple Prime Contractors' application with information from similar applications for progress payments from other Multiple Prime Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Multiple Prime Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.3 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager, for such amount as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect's

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reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.4 The Construction Manager's certification of an Application for Payment or, in the case of Multiple Prime Contractors, a Project Application and Certificate for Payment shall be based upon the Construction Manager's evaluation of the Work and the information provided as part of the Application for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information and belief, the Work has progressed to the point indicated and the quality of the Work is in accordance with the Contract Documents. The certification will also constitute a recommendation to the Architect and Owner that the Contractor be paid the amount certified.

§ 9.4.5 The Architect's issuance of a Certificate for Payment or in the case of Multiple Prime Contractors, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and information provided as part of the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated, that the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified.

§ 9.4.6 The representations made pursuant to Sections 9.4.4 and 9.4.5 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.7 The issuance of a separate Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Contractor's 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.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.4 and 9.4.5 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.3. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

.1 defective Work not remedied;
.2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
.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 a separate contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

§ 9.5.3 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment

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suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Construction Manager and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Construction Manager and Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Construction Manager will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

.1 A Material Supplier with Owner direct Purchase Orders can be paid by one payment by the Owner upon satisfactory completion of the requirements of the Purchase Order, which would include the delivery of materials and satisfactory verification that the materials comply with requirements of the Contract Documents.

§ 9.6.6 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.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 When Owner direct Purchase Orders are used, retainage that would otherwise be held on materials and equipment shall transfer to the Contractor, and the material suppliers will be paid the full amount of their invoices. The Owner shall retain ten percent (10%) from each Application for Payment, and an amount equal to ten percent (10%) of approved Purchase Order payments, up to fifty percent (50%) completion of the Work, then provided the Work is on schedule and satisfactory, and upon written request of the Contractor together with consent of surety and the recommendation of the Architect, the Owner shall approve a reduction in Retainage to five percent (5%) of the current Contract Sum plus Purchase Orders. No part of the five percent (5%) retainage shall be paid until after Substantial Completion of the Work, as defined in the General Conditions of the Contract for Construction. After Substantial Completion, if reasons for reduction in retainage are certified in writing by the Architect, a reduction to a lump sum amount less than the five percent (5%) retainage may be approved by the Owner when deemed reasonable. The minimum lump sum retainage shall be twice the estimated cost to correct deficient or incomplete work.

§ 9.7 Failure of Payment

If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager's receipt of the Contractor's

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Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount owing 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, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use. The ability to occupy and utilize the Work or designated portion thereof shall require an occupancy permit issued by the Kentucky Department of Housing, Building, and Construction and any other agencies that have statutory authority and approval requirements.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the list, which is not sufficiently complete in accordance with the requirements of the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work or designated portion thereof is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute a Certificate of Substantial Completion (AIA Document G704CMa) that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. 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.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 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 Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. 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 and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 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 after consultation with the Construction Manager.

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§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, 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, 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.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager will evaluate the completion of Work of the Contractor and then forward the notice and Application, with the Construction Manager's recommendations, to the Architect who will promptly make such inspection. When the Architect, finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits 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 the final Certificate is due and payable. The Construction Manager's and Architect's final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

.1 Upon receipt and approval of the final Application for Payment, for each Contract and Purchase Order, if any, the Construction Manager will prepare, and the Construction Manager, Architect, and Owner shall complete their portion of the Kentucky Department of Education BG-4 Contract Closeout Form – 2013, and forward the board-approved BG-4 form to the Kentucky Department of Education with a copy of the final Certificate for Payment upon the Board authorizing the BG-4 form, accepting the Work, and approving final payment to the Contractor or Material Supplier.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (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 canceled 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 and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests 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.

§ 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 Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and 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 completed 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 through the Construction Manager 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.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;

.2 failure of the Work to comply with the requirements of the Contract Documents; or

.3 terms of special warranties required by the Contract Documents.

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§ 9.10.5 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.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors.
The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 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 and other persons who may be affected thereby;

.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;

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and

.4 construction or operations by the Owner or other Contractors.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and 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.

§ 10.2.4 When use or storage of explosives or other 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.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 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 Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 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, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party 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

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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.

§ 10.3 Hazardous Materials

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to, asbestos or polychlorinated biphenyl (PCB),encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner, Construction Manager and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify a presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, 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 (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

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 Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Liability Insurance

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for

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which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;

.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

.4 Claims for damages insured by usual personal injury liability coverage;

.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and

.7 Claims for bodily injury or property damage arising out of completed operations; and

.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents. Such insurance shall be no less than the following amounts:

(1) Public Liability	$200,000.00 one person/maximum each person $500,000.00 one accident/maximum each person
(2) Property Damage	$200,000.00 one accident/maximum $500,000.00 aggregate

§ 11.1.2.1 The insurance required by Section 11.1.1 shall be written for not less than the following limits, or greater if required by law:

(1) Worker's Compensation:	
a. State	Statutory
b. Applicable Federal (e.g., Longshoreman's)	Statutory
c. Employer's Liability	$500,000
(2) Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractor's Protection; Product Liability and Completed Operations; Broad Form Property Damage);	
a. General Aggregate (except Products-Completed Operations)	$1,000,000
b. Products-Completed Operations Aggregate	$1,000,000
c. Personal/Advertising Injury (per person/organization)	$1,000,000
d. Each Occurrence (Bodily Injury and Property Damage)	$1,000,000
e. Limit per Person Medical Expense	$10,000
f. Exclusions of Property in Contractors Care, Custody or Control will be eliminated.	
g. Property Damage Liability Insurance will provide Coverage for Explosion, Collapse, and Underground Damage.	
(3) Contractual Liability:	
a. General Aggregate	$1,000,000
b. Each Occurrence (Bodily Injury and Property Damage)	$1,000,000

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(4) Automobile Liability:

a. Bodily Injury	$500,000 Each Person
	$1,000,000 Each Accident
b. Property Damage	$500,000 Each Accident, or
	a combined single limit of $1,000,000

(5) Liability coverage for the Owner, the Architect, the Architect's Consultants and others listed in the Supplementary Conditions will be provided (subject to customary exclusions for professional liability), by endorsement as additional insured's on the Contractor's Liability Policy.

(6) Excess Liability Umbrella Form:

a. General Aggregate	$1,000,000
b. Each Occurrence	$1,000,000

§ 11.1.2.2 There shall be an endorsement in each of the above policies reading as follows: "It is hereby agreed that in the event of a claim arising under this policy, the company may not deny liability be reason of the insured being a state, county, municipal corporation or governmental agency."

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be submitted to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Construction Manager, the Construction Manager's consultants, the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 Owner's Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 Property Insurance

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional 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 Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Architect's, Contractor's, and Construction Manager's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to

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commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 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 and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 Boiler and Machinery Insurance. The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Construction Manager, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 Loss of Use Insurance. The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.6.1 Before an exposure to loss may occur, the Owner shall provide the Architect and the Kentucky Department of Education with certificates of insurance coverage required by this Section 11.3.

§ 11.3.7 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 Construction Manager, 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 causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as the Owner and Contractor may have to the proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, Owner's 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

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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.

§ 11.3.8 A loss insured under the 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 and of Section 11.3.10. 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.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or distribution of insurance proceeds in accordance with the direction of the arbitrators.

§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 Unless otherwise provided, when the Contract Sum exceeds twenty-five thousand dollars ($25,000) the Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. A surety company authorized to do business in Kentucky shall execute bonds, and the cost thereof shall be included in the Contract Sum. Unless otherwise provided, the amount of each bond shall be equal to 100% of the Contract Sum plus Purchase Orders, or 100% of the Lump Sum Base Bid plus or minus accepted Alternates, whichever is greater.

§ 11.4.2 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 authorize a copy to be furnished.The Contractor shall furnish a performance and payment bond in an amount at least equal to one hundred percent (100%) of the contract price as security for the faithful performance of the contract and the payment of all persons performing labor on the project under the contract and furnishing materials, equipment or supplies in connection with the contract, including security for the payment of all unemployment contributions which become due and payable under Kentucky Unemployment Insurance Law. The performance and payment bond (AIA Document A312-2010) shall be executed by a Surety Company authorized to do business in the Commonwealth of Kentucky, and the contract instrument of bonds must be countersigned by a duly appointed and licensed agent resident of Kentucky.

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 Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their 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 Construction Manager or Architect has not specifically requested to observe prior to its being covered, the Construction Manager or Architect 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 at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or one of the other Contractors in which event the Owner shall be responsible for payment of such costs.

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§ 12.2 Correction of Work

§ 12.2.1 Before or After Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, 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 Section 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. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period 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 completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 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 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors or other Multiple Prime Contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 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.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that 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.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.1.1 None of the Contract Documents for this project shall be construed against the party preparing documents on the grounds that the party prepared or drafted the document, or any portion thereof.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other.

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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.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual, to 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 or by courier service providing proof of delivery 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, Construction Manager, 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 shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. 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, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Construction Manager, Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Construction Manager and 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 Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. Such costs except as provided in Section 13.5.3, shall be at the Owner's expense.

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

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager for transmittal to the Architect.

§ 13.5.5 If the Construction Manager or Architect is to observe tests, inspections or approvals required by the Contract Documents, the Construction Manager or 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.

§ 13.6 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as required by state law, or in the absence of law, at the legal rate prevailing at the time and place where the Project is located.

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§ 13.7 Time Limits on Claims

The Owner and the Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and the Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

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 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

.3 Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive 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 repeatedly 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, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, after consultation with the Construction Manager, and upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

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.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension 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.

§ 14.3.2 The Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. 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.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, 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 The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 Notice of Claims. Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Construction Manager and Architect, if the Construction Manager and or Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated 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.

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§ 15.1.3 Continuing Contract Performance. Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Construction Manager will prepare Change Orders and the Architect will issue a Certificate for Payment or Project Certificate for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3.

§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

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§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect and Construction Manager, if the Architect or Construction Manager is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which shall be in accordance with the Construction Industry Mediation Procedures of the American Arbitration Association in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

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§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

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SECTION 00302
SUPPLEMENTARY CONDITIONS

The following Supplementary Conditions modify, change, delete from or add to the AIA A232-2009 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, CONSTRUCTION MANAGER AS ADVISOR EDITION, a copy of which is bound into the Project Manual. Where an Article of the General Conditions is modified or a Paragraph, Subparagraph, or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

ARTICLE 1
GENERAL PROVISIONS

1.1 THE CONTRACT DOCUMENTS

Insert the following in the first sentence: "...Conditions of the Contract, Instructions to Bidders (General, Supplementary), Contractor's Form of Proposal, Project Construction Schedule...". Delete last sentence in its entirety.

ARTICLE 2
OWNER

2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

Delete Subparagraph 2.4.1 and substitute the following:

2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a three-day period after receipt of written notice from the owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case, an appropriate change order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Construction Manager's and Architect's and their respective consultants' additional services and expenses made necessary for such default, neglect, or failure. Such action by the owner and amounts charged to the Contractor are both subject to prior approval of the Architect, after consultation with the Construction Manager. 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 NO. 3
CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Add the following Subparagraphs:

3.2.5 Plans and specifications for the Project show or specify various structural, architectural, mechanical and electrical entities, diagrams, and devices for each item. The mention of acceptable manufacturer does not necessarily imply that their particular "standard" product meets all of the requirements of the detail or specifications. Therefore, the cost of deviations, extensions or adjustments required for the low Bidder's product must be included in the General Contractor's bid. No additional cost will be considered.

3.2.6 By execution of this contract, the Contractor warrants that he has visited the site of the proposed work, and fully acquainted himself with the existing conditions there relating to construction and labor, and that he fully understands the facilities, difficulties, and restrictions attending the execution of the work under contract. The Contractor further warrants that he has thoroughly examined and is familiar with the drawings, specifications, and all other documents comprising the contract. The Contractor further warrants that by execution of this contract, his failure, when he was bidding on this contract, to receive or examine any form, instrument, or document or to visit the site and acquaint himself with conditions there existing, in no way relieves the Contractor of any liability. The Contractor agrees that the Owner shall be justified in rejecting any claim based on facts regarding conditions for which should have been on prior notice.

Before ordering material or performing any work, the Contractor shall verify all measurements at the work site. Any difference between dimensions on the Drawings and actual measurements shall be brought to the Architect's attention for his consideration before the work may proceed. No extra compensation will be allowed because of difference between actual measurements and dimensions indicated on the Drawings. The contractor shall assume full responsibility for accuracy of measurements obtained at the Work Site.

3.5 WARRANTY

Add the following subparagraph:

The Contractor shall also provide warranties as required by the technical specifications. Contractors and material and equipment suppliers shall be responsible for providing any additional or extended warranties and associated costs, required to provide the specified warranty period beginning from the date of Substantial Completion. (No Exceptions).

3.6 TAXES

Add the following subparagraph:

Bidders are informed that construction contracts of the Commonwealth of Kentucky and political subdivisions are not exempt from the provisions of the Kentucky Sales and/or Use Tax. Current sales and/or Use Tax shall be provided for and included in the bid amount as no adjustments will be permitted nor made after receipt of bids.

3.7 PERMITS, FEES, AND NOTICES

Add the following Subparagraphs:

3.7.5 "All branches of the work shown on the plans or specified shall be executed in strict compliance with all local or state regulations and codes, and shall be in compliance with all National Codes, when same have jurisdiction."

3.7.6 "All Contractors must be qualified, and meet all requirements provided and/or required under any local and/or state statute, code, ordinances, or rule governing the performance of the type of work of which he submits a bid, and be able to submit proof thereof upon request."

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULE

Delete Subparagraph 3.10.1 in its entirety.

3.15 CLEANING UP

Add the following sentence at the end of Subparagraph 3.15.1

"Clean-up shall be performed daily".

ARTICLE NO. 4
ADMINISTRATION OF THE CONTRACT

Upon acknowledgment of the Notice to Proceed and continuing throughout the contract, the Contractor will record on the daily report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically for the first to the last day of each month, and be recorded as full days.

ARTICLE NO. 5
SUBCONTRACTORS

5.3 SUBCONTRACTUAL RELATIONS

Add the following Subparagraphs:

5.3.2 "All Subcontractors shall familiarize themselves with all of the conditions relating to this contract since the terms set forth in the General conditions binds all subcontractors to the Contract."

ARTICLE NO. 7
CHANGES IN THE WORK

7.2 CHANGE ORDERS

Add the following Subparagraphs:

A. 7.2 CHANGE ORDERS

(1) Revise Subparagraph 7.2.2 as follows:

Between the words "Contract Sum" and "include those" delete the word "may".

(2) Add the following Subparagraph 7.2.3 with Clauses 7.2.3.1, 7.2.3.2 and 7.2.3.3 to Paragraph 7.2:

7.2.3 Changes in the Work covered by change order on a lump sum basis shall include a detailed breakdown of all costs and including a component for all overhead and profit, indirect costs or other items not to exceed fifteen percent (15%) with overhead not to exceed ten percent (10%) and profit not to exceed five percent (5%). The Contractor shall only receive one fifteen percent (15%) mark-up as the "jobsite overhead and profit" component whether such work is done by the Contractor or by his Subcontractor. Separate amounts shall be shown for each material item, labor item, overhead and profit.

7.2.3.1 The Contractor shall keep and present a correct account of all items comprising the net cost of such Work, together with vouchers when performing work on a cost-plus basis. The cost shall include the cost to the Contractor of all materials used, of all labor including common and skilled, foremen, and trucks and teams, and the fair rental of all machinery used and for the period of such use. If such Work requires the use of machinery not already upon the Work or to be otherwise used upon the Work, then the cost of transportation of such machinery to and from the Work shall be added to the fair rental, but said transportation shall not cover a distance exceeding on hundred (100) miles.

7.2.3.2 The Contractor shall not include in the net cost of Work any cost or rental for small tools, or any portion of time of the Contractor or his superintendent, or any allowance for the use of capital, or any additional bond premium, insurance cost applicable to the Work, or any actual or anticipated profit, or any job or office overhead not previously mentioned, these being considered as being covered by the added fifteen percent (15%) for the jobsite overhead and profit component.

7.2.3.3 In all such cases where changes in the Work are covered by unit prices set forth in the Contract, the value of such Work shall be determined only upon the basis of such unit price.

(3) Add the following Subparagraph 7.2.4 to Paragraph 7.2

7.2.4 The execution of the Change Order by the Contractor shall constitute conclusive evidence of the Contractor's agreement to the ordered changes in the Work, the resulting Contract as thus amended, the Contract Sum, and the time for performance by the Contractor. The Contractor, by executing the Change Order, waives and forever releases any claim against the Owner for additional time or compensation for matters relating to or arising out of or resulting from the Work included within or affected by the executed Change Order.

(4) Add the following Subparagraph 7.2.5 to Paragraph 7.2

7.2.5 The Contractor shall notify and obtain consent and approval of the Contractor's Payment and performance Bond sureties with reference to all Change Orders, if such notice, consent or approval is required by the Owner, Construction Manager, Architect, or Contractor's sureties, or by law. The Contractor's execution of the Change Order shall constitute the Contractor's warranty to the Owner that the sureties have been notified of, and consent to, such Change Order and the sureties shall be conclusively deemed to

have been notified of such Change Order and to have expressly consented thereto.

B. 7.4 MINOR CHANGES IN THE WORK

(1) Add Subparagraph 7.4.2 to Paragraph 7.4:

7.4.2 If the Contractor claims that any instructions by the Architect or Construction Manager involve additional cost and / or time extension, the Contractor shall give the Construction Manager written notice thereof within time limits defined in Subparagraph 4.7.3 after receipt of such instructions or before proceeding to execute the instructions in Work, whichever is sooner. Otherwise the Contractor shall be deemed to have waived any right to claim an adjustment to the Contract Sum or to the Contract Completion Time.

ARTICLE NO. 9
PAYMENTS AND COMPLETION

9.3 APPLICATION FOR PAYMENT

Add the following Subparagraph to Paragraph 9.3.1:

9.3.1.3"The date for each progress payment shall be established to provide sufficient time for the Construction Manager's and Architect's review and for the Owner to include the application payment in the agenda of the next regularly scheduled board meeting.

9.6 PROGRESS PAYMENT

Add to the front of Subparagraph 9.6.1 the following:

The Owner will make payment to the contractor by either one payment upon completion of the project and acceptance by the Owner, or the Contractor may apply for partial payments less ten percent (10%) retainage on the amount of work performed or materials furnished for the work in accordance with the conditions and the following procedures:

A. Schedules – Prior to submitting the first payment application, the Contractor shall submit a schedule of values of the work and a progress schedule in form and substance satisfactory to Construction Manager and Architect for approval. The schedule of values shall include quantities and prices aggregating the contract price and shall subdivide the work into component parts. An approved copy of the Schedules will be provided to the Contractor which will be the basis for progress payments during construction. The schedule of progress shall indicate the starting and completion dates of the various stages of work.

B. Application for Progress Payment –

(1) Not more than once a month, the Contractor shall submit to the Construction Manager a signed application for payment for the work completed as of the date of the application and accompanied by such data and schedules as the Construction Manager may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the work, but delivered and suitably stored at the site or at another location agreed to in writing, the application for payment shall also be accompanied by such data, satisfactory to the Owner, as will establish Owner's title to

the material and equipment and protect the Owner's interest therein, including applicable insurance. Each subsequent application for payment shall include an affidavit from the Contractor stating that all previous progress payment received on account of the work have been applied to discharge, in full, all of the Contractor's obligations reflected in prior applications for payment.

(2) Upon certificate of substantial completion of the work, the Contractor may make application for the balance of the contract funds less a five percent (5%) retainage. Upon completion of all punch list items, the Contractor may make application for the remaining five percent (5%) retainage.

(3) The Kentucky Fairness in Construction Act, KRS 371.400 to 371.990, applies to this construction contract, and where there is a conflict between the terms and conditions of these contract documents and the provisions of the Kentucky Fairness in Construction Act, the latter shall prevail.

9.10 FINAL COMPLETION AND FINAL PAYMENT

Add to the front of Subparagraph 9.10.1 the following:

"Final completion of the work" shall mean when all "punch list" items are completed, when "waiver of lien" is submitted, the manufacturers' warranties are submitted and approved, and the contractor has delivered to the Architect all required certificates of inspection. Final Completion shall include final clean-up of the building and premises.

Add the following to the end of Subparagraph 9.10.2:

"Retainage will not be reduced below five percent (5%) until all items have been worked off of the punch list.

ARTICLE NO. 10
PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Subparagraphs:

10.2.8 "CONSTRUCTION AND SAFETY DEVICES: The Contractor shall provide safety controls for protection of the life and health of employees. He will utilize precautionary methods for the prevention of damage to property, materials, equipment, and supplies, and for avoidance of work interruptions in the performance of this contract. In order to provide such safety controls aforesaid, the Contractor shall comply with all pertinent provisions of the Kentucky Safety Standards of the Division of Occupational Safety, Department of Labor and Federal Occupational Safety and Health Construction Standards (OSHA), that are in effect at the time of this contact is entered into and during the period in which the contract is to be performed. Contractor shall also take or cause to be taken such additional measures as the Division of Occupational Safety may determine to be reasonable and necessary for the purpose.

The Contractor shall maintain an accurate account of and shall report to the Division of Occupational Safety in the manner and on the forms prescribed by the Division, exposure date and all accidents resulting in death, traumatic injury, occupational disease, and/or

damage to property, materials, supplies, and equipment incident to work performed under this Contract.

The Division of Occupational Safety will notify the Contractor through the Owner of any non-compliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately correct conditions. Such notice when delivered to the Contractor or his representative at the site of work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until unsatisfactory or corrective action has been taken. Failure or refusal to comply with the order will be grounds for stopping all payments due under the contract of the Contractor. No part of the time lost due to any such stop order shall be made the subject of claim for extension of the time or for excess cost or damages to the Contractor.

Compliance with the provisions of the foregoing sections by subcontractors will be the responsibility of the prime contractor.

Nothing in the aforesaid provisions shall prohibit the U.S. Department of Occupational Safety and Health from enforcing pertinent occupational safety and health standards authorized under Federal or State Occupational Safety and Health Law.

In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 7 "Changes in Work".

ARTICLE NO. 11
INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.5 "The Owner **will** be responsible for providing Builders' Risk Insurance."

11.1.6 Subcontractor's General Liability Insurance policies shall include and cover Codell Construction Company as an additional insured for this project with respect to liability for bodily injury or property damage caused, in whole or in part, by your work or work performed for you, at the location designated in these documents. Codell Construction Company shall be an additional insured during the performance of this contract and at these premises additionally for products-completed operations. ISO Forms CG 20 33 07 or and CG 20 37 07 04 shall be added to the subcontractor's CGL policy. However, the addition or absence of ISO forms doesn't alter or delete this contractual liability. ***All Additional Insured are to be provided with "FIRST DOLLAR" Coverage.***

11.3 PROPERTY INSURANCE

11.3.1 "The Owner **will** be responsible for providing Property Insurance related to this construction project."

11.4 PERFORMANCE BOND AND PAYMENT BOND

Add the following Subparagraphs:

11.4.1.3"Contractor shall also furnish such other bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by the bidding documents or Supplementary Conditions and be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act. The Surety shall be acceptable to the Owner. All Bonds shall remain in effect at least until one year after the date of final payment, except as otherwise provided by law."

11.4.1.4"If the surety on any Bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the state of the point of delivery or the surety ceases to meet the requirements stated in the above paragraph, Contractor shall within five days thereafter substitute another Bond and surety, both of which must be acceptable to Owner at no additional cost to Owner"

ARTICLE NO. 13
MISCELLANEOUS PROVISIONS

13.1 GENERAL EQUAL EMPLOYMENT POLICY

Add the following Subparagraph;

The Board of Education, an Equal Employment Opportunity and Affirmative Action Employer, has adopted the Model Procurement Regulations and they shall be deemed incorporated by reference in these Bidding and Contract Documents as though fully quoted herein. In the event of any conflict between these documents and the Model Procurement Regulations, the Regulations shall govern.

13.5 TESTS AND INSPECTIONS

13.5.1 In the last sentence, "The Owner shall bear costs...", change "Owner" to "Contractor".

Add the following Subparagraph:

13.5.7 "Testing of materials and systems shall be as specified in their particular sections of technical specifications."

Add the following Paragraphs:

13.8 NON-DISCRIMINATION

"During the performance on this Contract, the Contractor agrees as follows: The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, emotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection

for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

The Contractor will, in all solicitations or advertisement for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

The Contractor will send each labor union or representative of workers with which he has a collective bargaining agreement or other contractor or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency sanctions for non-compliance."

13.9 AFFIDAVIT OR ASSURANCES

13.9.1 Prior to the execution of the Contract, the Owner will require of the Contractor a completed and notarized AFFIDAVIT OF ASSURANCES PURSUANT TO KRS 198b.060(10).

A copy of the affidavit for DOH-BCD-or, dated 7/90, is included as a part of these Supplemental Conditions.

ARTICLE 14
TERMINATION OR SUSPENSION OF THE CONTRACT

14.2 TERMINATION BY THE OWNER FOR CAUSE

(1) Subparagraph 14.2.2

a. Delete the word "seven" and replace with "three".

CASE NO._____
PROJECT NAME:_____
CITY/COUNTY:_____

*AFFIDAVIT OF ASSURANCES
PURSUANT TO KRS 198B.060(10)

Comes the Applicant,_____, and states
(Print Name)

Pursuant to KRS 198B.060(10), that all contractors and subcontractors employed or that will be employed on any activity under the above referenced project shall be in compliance with the Commonwealth of Kentucky requirements for Worker's Compensation Insurance (according to KRS Chapter 341).

THIS, the _____ day of _____, 200

_____
CONTRACTOR, OWNER, OR OWNER'S AGENT

SUBSCRIBED AND SWORN to before me by _____, Applicant, on this the _____ day of _____, 200 .

_____
NOTARY PUBLIC, STATE AT LARGE

MY COMMISSION EXPIRES:_____.

*( )The Affidavit of Assurances is not required because the local building code official was, or will be presented the assurances upon issuance of the local building permit.

SECTION 00303
PREVAILING WAGES

Matthew G. Bevin
Governor

Jenean M. Hampton
Lt. Governor

Kentucky Labor Cabinet
Department of Workplace Standards
Division of Employment Standards, Apprenticeship and Mediation
1047 US Hwy 127 S STE 4
Frankfort, Kentucky 40601
Phone: (502) 564-3070
Fax: (502) 696-1897
www.labor.ky.gov

Derrick K. Ramsey
Secretary

August 16, 2016

Frances Jones
Codell Construction Co.
PO Box 17
Winchester KY 40392

Re: Floyd County BOE, Floyd Central HS-Scoreboard

Advertising Date as Shown on Notification: August 16, 2016

Dear Frances Jones:

This office is in receipt of your written notification on the above project as required by KRS 337.510 (1).

I am enclosing a copy of the current prevailing wage determination number CR 2-029, dated October 7, 2015 for FLOYD County. This schedule of wages shall be attached to and made a part of the specifications for the work, printed on the bidding blanks, and made a part of the contract for the construction of the public works between the public authority and the successful bidder or bidders.

The determination number assigned to this project is based upon the advertising date contained in your notification. There may be modifications to this wage determination prior to the advertising date indicated. In addition, if the contract is not awarded within 90 days of this advertising date or if the advertising date is modified, a different set of prevailing rates of wages may be applicable. It will be the responsibility of the public authority to contact this office and verify the correct schedule of the prevailing rates of wages for use on the project. Your project number is as follows: 036-B-00459-15-2, Building

Sincerely,

Michael C. Donta
Deputy Commissioner

Kentucky UNBRIDLED SPIRIT

An Equal Opportunity Employer M/F/D

KENTUCKY LABOR CABINET
PREVAILING WAGE DETERMINATION
CURRENT REVISION
LOCALITY NO. 029

FLOYD, HARLAN, KNOTT & LETCHER COUNTIES

Determination No. CR 2-029

Project No. 036-B-00459-15-2
Type: __X__ Bldg _____ HH

Date of Determination: October 7, 2015

This schedule of the prevailing rate of wages for Locality No. 029, which includes Floyd, Harlan, Knott & Letcher Counties, has been determined in accordance with the provisions of KRS 337.505 to 337.550. This determination shall be referred to as Prevailing Wage Determination No. CR 2-029.

Apprentices shall be permitted to work as such subject to Administrative Regulations. Copies of these regulations will be furnished upon request to any interested person.

Overtime is to be computed at not less than one and one-half (1 1/2) times the indicated BASE RATE for all hours worked in excess of eight (8) per day, and/or in excess of forty (40) per week. However, KRS 337.540 permits an employee and employer to agree, in writing, that the employee will be compensated at a straight time base rate for hours worked in excess of eight (8) hours in any one calendar day, but not more than ten (10) hours worked in any one calendar day, if such written agreement is prior to the over eight (8) hours in a calendar day actually being worked, or where provided for in a collective bargaining agreement. The fringe benefit rate is to be paid for each hour worked at a straight time rate for all hours worked. Fringe benefit amounts are applicable for all hours worked except when otherwise noted. Welders will receive rate for craft in which welding is incidental.

No laborer, workman or mechanic shall be paid at a rate less than that of the General Laborer except those classified as bona fide apprentices registered with the Kentucky State Apprenticeship Supervisor unless otherwise specified in this schedule of wage rates.

NOTE: The type of construction shall be determined by applying the following definitions.

BUILDING CONSTRUCTION
Building construction is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. It includes all construction of such structures, the installation of utilities and the installation of equipment, both above and below grade level, as well as incidental grading, utilities and paving.

HIGHWAY CONSTRUCTION
Highway construction includes the construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction. It includes all incidental construction in conjunction with the highway construction project.

HEAVY CONSTRUCTION
Heavy projects are those projects that are not properly classified as either "building" or "highway". For example, dredging projects, water and sewer line projects, dams, flood control projects, sewage treatment plants and facilities, and water treatment plants and facilities are considered heavy.

Anthony Russell, Commissioner
Department of Workplace Standards
Kentucky Labor Cabinet

CLASSIFICATIONS		RATE AND FRINGE BENEFITS	
ASBESTOS/INSULATION WORKERS:			
Mechanics:		BASE RATE	$30.84
		FRINGE BENEFITS	20.84
Insulation removers & hazardous waste handlers:		BASE RATE	$11.13
		FRINGE BENEFITS	3.40
BOILERMAKERS:		BASE RATE	$24.65
		FRINGE BENEFITS	12.59
BRICKLAYERS:		BASE RATE	$12.00
		FRINGE BENEFITS	0.00
CARPENTERS / BUILDING			
FLOYD, KNOTT & LETCHER COUNTIES:			
Carpenters:	BUILDING	BASE RATE	$28.19
		FRINGE BENEFITS	15.90
Piledriver:	BUILDING	BASE RATE	$28.59
		FRINGE BENEFITS	15.90
HARLAN COUNTY:			
Carpenters:	BUILDING	BASE RATE	$22.72
		FRINGE BENEFITS	13.01
Piledriver:	BUILDING	BASE RATE	$23.22
		FRINGE BENEFITS	13.01
CARPENTERS / HEAVY HIGHWAY			
FLOYD, HARLAN, KNOTT & LETCHER COUNTIES:			
Carpenters:	HEAVY & HIGHWAY	BASE RATE	$27.50
		FRINGE BENEFITS	15.00
Piledriver:	HEAVY & HIGHWAY	BASE RATE	$27.75
		FRINGE BENEFITS	15.00
Divers:	HEAVY & HIGHWAY	BASE RATE	$41.63
		FRINGE BENEFITS	15.00

CLASSIFICATIONS		RATE AND FRINGE BENEFITS	
CEMENT MASONS & PLASTERERS:		BASE RATE	$ 14.00
		FRINGE BENEFITS	0.00
ELECTRICIANS:	BUILDING	BASE RATE	$32.86
		FRINGE BENEFITS	22.67
ELECTRICIANS / HEAVY HIGHWAY:			
LINEMAN:	HEAVY HIGHWAY	BASE RATE	$32.98
		FRINGE BENEFITS	11.60
EQUIPMENT OPERATOR:	HEAVY HIGHWAY	BASE RATE	$29.48
		FRINGE BENEFITS	10.90
GROUNDMEN:	HEAVY HIGHWAY	BASE RATE	$19.53
		FRINGE BENEFITS	8.91
ELEVATOR CONSTRUCTORS:		BASE RATE	$32.00
		FRINGE BENEFITS	10.33
GLAZIERS:		BASE RATE	$8.43
		FRINGE BENEFITS	0.00
IRONWORKERS:		BASE RATE	$30.52
		FRINGE BENEFITS	20.50
LABORERS / BUILDING			
GROUP 1:			
Laborers, Carpenter Helpers, Cement Finisher Helpers, Concrete Men, Wreckers, Oxygen & Acetylene Handlers, Environmental Laborers, Hole Watch & Fire Watch:		BASE RATE	$28.14
		FRINGE BENEFITS	14.67
GROUP 2:			
Hod Carriers & Mortar Men, Jackhammer, Electrical, Gas or Air Driven Tools, Burning Torch, Wagon Drill Operators, Tile Layers, Signal Men, Tool Room Men, Asphalt Worker, Creosote Material Handler:		BASE RATE	$28.29
		FRINGE BENEFITS	14.67
GROUP 3:			
Deck & Scow Men, Wrapping & Applying Hot & Cold Tar & Tape on all Pipes, Operation of Tester:		BASE RATE	$28.31
		FRINGE BENEFITS	14.67
Rock & Powder Men:		BASE RATE	$29.37
		FRINGE BENEFITS	14.67
Sand Hog & Mucker:		BASE RATE	$28.77
		FRINGE BENEFITS	14.67

CLASSIFICATIONS		RATE AND FRINGE BENEFITS	
LABORERS / BUILDING CONTINUED:			
Caisson Worker:		BASE RATE	$29.34
		FRINGE BENEFITS	14.67
LABORERS / HEAVY HIGHWAY			
Asphalt Lute & Rakerman, Side Rail Setter:			
	HEAVY & HIGHWAY	BASE RATE	$22.60
		FRINGE BENEFITS	13.50
Drill Operator of Percussion type drills which are both powered & propelled by an independent air supply:			
	HEAVY & HIGHWAY	BASE RATE	$25.00
		FRINGE BENEFITS	13.50
Power driven toll operator of following: Wagon Drill, Chain Saw, Sand Blaster, Jack Hammer, Concrete Chipper, Pavement Breaker, Vibrator, Power Wheel Barrow, Power Buggy; Sewer Pipe Layer, Bottom Men, Dry Cement Handler, Concrete Rubber, Mason Tender:			
	HEAVY & HIGHWAY	BASE RATE	$22.55
		FRINGE BENEFITS	13.50
Gunnite Nozzel Man, Gunnite Operator:			
	HEAVY & HIGHWAY	BASE RATE	$22.70
		FRINGE BENEFITS	13.50
Hand Blade Operator, Batch Truck Dumper, Deck Hand or Scow Man:			
	HEAVY & HIGHWAY	BASE RATE	$22.45
		FRINGE BENEFITS	13.50
Caisson Worker:	HEAVY & HIGHWAY	BASE RATE	$23.70
		FRINGE BENEFITS	13.50
Laborer, Flagman, Steam Jenny:			
	HEAVY & HIGHWAY	BASE RATE	$22.20
		FRINGE BENEFITS	13.50
Tunnel Miner, Blaster & Driller (Free Air):			
	HEAVY & HIGHWAY	BASE RATE	$23.15
		FRINGE BENEFITS	13.50
Tunnel Laborer (Free Air):	HEAVY & HIGHWAY	BASE RATE	$22.75
		FRINGE BENEFITS	13.50
Tunnel Mucker (Free Air):	HEAVY & HIGHWAY	BASE RATE	$22.80
		FRINGE BENEFITS	13.50
MARBLE, TILE & TERRAZZO:			
Workers:		BASE RATE	$19.88
		FRINGE BENEFITS	6.30
Finishers:		BASE RATE	$13.68
		FRINGE BENEFITS	2.41

MILLWRIGHTS:

BASE RATE	$33.07
FRINGE BENEFITS	17.26

OPERATING ENGINEERS / BUILDING:

BUILDING CLASS A-1: (NCCCO OR OECP CERTIFIED) Crane, dragline, hoist (1drum when used for stack or chimney construction or repair), hoisting engineer (2 or more drums), orangepeel bucket, overhead crane, piledriver, truck crane, tower crane, hydraulic crane:

BUILDING	BASE RATE	$31.97
	FRINGE BENEFITS	14.52

BUILDING CLASS A: Articulating Dump, Auto Patrol, Batcher Plant, Bituminous Paver, Cableway, Carrydeck Crane, Central Compressor Plant, Clamshell, Concrete Mixer (21 cu. ft. or over), Concrete Pump, Crane, Crusher Plant, Derrick, Derrick Boat, Directional Boring Machine, Ditching and Trenching Machine, Dragline, Dredge Operator, Dredge Engineer, Elevating Grader and all types of Loaders, Forklift (regardless of lift height), GPS Systems (on equipment within the classification), Hoe-Type Machine, Hoist (1 drum when used for stack or chimney construction or repair), Hoisting Engine (2 or more drums), Laser or Remote Controlled Equipment (within the classification), Locomotive, Motor Scraper, Carry-all Scoop, Bulldozer, Heavy Duty Welder, Mechanic, Orangepeel Bucket, Piledriver, Power Blade, Motor Grader, Roller (bituminous), Scarifier, Shovel, Tractor Shovel, Truck Crane, Winch Truck, Push Dozer, Highlift, All Types of Boom Cats, Self Contained Core Drill, Hopto, Tow or Push Boat, A-Frame Winch Truck, Concrete Paver, Gradeall, Hoist, Hyster, Pumpcrete, Ross Carrier, Boom, Tail Boom, Rotary Drill, Hydro Hammer, Mucking Machine, Rock Spreader attached to equipment, Scoopmobile, KeCal Loader, Tower Cranes (French, German and other types), Hydrocrane, Backfiller, Gurries, Subgrader, Tunnel Mining Machines including Moles, Shields, or similar types of Tunnel Mining Equipment:

BUILDING	BASE RATE	$31.10
	FRINGE BENEFITS	14.52

Operators on cranes with boom one-hundred fifty feet (150') and over including jib, shall receive seventy-five cents ($.75) above base rate. All cranes with piling leads will receive $.50 above base rate regardless of boom length

BUILDING CLASS B: All Air Compressors (over 900 cfm), Bituminous Mixer, Joint Sealing Machine, Concrete Mixer (under 21 cu. ft), Form Grader, Roller (rock), Tractor (50 HP and over), Bull Float, Finish Machine, Outboard Motor Boat, Flexplane, Fireman, Boom Type Tamping Machine, Truck Crane Oiler, Greaser on Grease Facilities servicing, Heavy Equipment, Switchman or Brakeman, Mechanic Helper, Whirley Oiler, Self-Propelled Compactor, Tractair and Road Widening Trencher and Farm Tractor with Attachments (except backhoe, highlift and endloader), Elevator (regardless of ownership when used for hoisting any building materials), Hoisting Engineer (1 drum or buck hoist), Firebrick (masonry excluded), Well Points, Grout Pump, Throttle-Valve Man, Tugger, Electric Vibrator Compactor, and Caisson Drill Helper:

BUILDING	BASE RATE	$26.47
	FRINGE BENEFITS	14.52

BUILDING CLASS C: Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Roller (earth), Tamping Machine, Tractors (under 50 HP), Vibrator, Oiler, Concrete Saw, Burlap and Curing Machine, Hydro-Seeder, Power Form handling Equipment, Deckhand Steersman, Hydraulic Driver and Drill Helper:

BUILDING	BASE RATE	$25.13
	FRINGE BENEFITS	14.52

All Building Operators assigned to work below ground level are to be paid ten percent (10%) above base wage rate. This does not apply to open cut work

OPERATING ENGINEERS/ HEAVY HIGHWAY:

HEAVY HIGHWAY CLASS A-1: (NCCCO OR OECP CERTIFIED) Crane, dragline, hoist (1drum when used for stack or chimney construction or repair), hoisting engineer (2 or more drums), orangepeel bucket, overhead crane, piledriver, truck crane, tower crane, hydraulic crane:

HEAVY & HIGHWAY	BASE RATE	$31.08
	FRINGE BENEFITS	14.40

HEAVY HIGHWAY CLASS A:
Auto patrol, batcher plant, bituminous paver, cable-way, clamshell, concrete mixer (21 cu ft or over), concrete pump, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge engineer, elevator (regardless of ownership when used for hoisting any building material, elevating grader and all types of loader, hoe type machine, hoisting engine, locomotive, LeTourneau or carry all scoop, bulldozer, mechanic, orangepeel bucker, piledriver, power blade, roller (bituminous), roller (earth), roller (rock), scarifier, shovel, tractor shovel, truck crane, well points, winch truck, push dozer, grout pump, pumpcrete, ross carrier, sheep foot, Sidebottom, throttle valve man, rotary drill, power generator, mucking machine, rock preader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, tugger, backfiller gurries, self-propelled compactor, self-contained hydraulic percussion drill, powderman:

HEAVY & HIGHWAY	BASE RATE	$29.95
	FRINGE BENEFITS	14.40

HEAVY HIGHWAY CLASS B:
All air compressors (200 cu ft per minute or greater capacity), bituminous mixer, concrete mixer (under 21 cu ft), welding machine, form grader, tractor (50 HP and over), bull float, finish machine, outboard motor boat, brakeman, mechanic helper, whirly oiler, tractair and road widening trenching, articulating trucks:

HEAVY & HIGHWAY	BASE RATE	$27.26
	FRINGE BENEFITS	14.40

HEAVY HIGHWAY CLASS B2:
Greaser on Grease Facilities servicing Heavy Equipment:

HEAVY & HIGHWAY	BASE RATE	$27.68
	FRINGE BENEFITS	14.40

HEAVY HIGHWAY CLASS C:
Bituminous Distributor, cement gun, conveyor, mud jack, paving joint machine, pump, tamping machine, tractors (under 50 HP), vibrator, oiler, air compressors (under 200 cu ft per min capacity), concrete saw, burlap and curing machine, hydro seeder, power form handling equipment, deckhand oiler, hydraulic post driver:

	HEAVY & HIGHWAY	BASE RATE	$26.96
		FRINGE BENEFITS	14.40
PAINTERS:	BUILDING	BASE RATE	$13.42
		FRINGE BENEFITS	1.28
	HEAVY & HIGHWAY	BASE RATE	$17.30
		FRINGE BENEFITS	3.80

PLUMBERS & STEAMFITTERS:		BASE RATE	$28.00
		FRINGE BENEFITS	23.06
ROOFERS: (Excluding Metal Roofs)		BASE RATE	$9.30
		FRINGE BENEFITS	1.28
SHEETMETAL WORKERS: (Including Metal Roofs)		BASE RATE	$10.97
		FRINGE BENEFITS	1.28
SPRINKLER FITTERS:		BASE RATE	$29.00
		FRINGE BENEFITS	16.75
TRUCK DRIVERS:	**BUILDING**	BASE RATE	$10.50
		FRINGE BENEFITS	0.00

TRUCK DRIVERS/HEAVY & HIGHWAY:

Driver (3 tons & under), tire changer & truck mechanic helper:			
	HEAVY & HIGHWAY	BASE RATE	$22.78
		FRINGE BENEFITS	13.50
Driver; (over 3 tons) Driver, (truck mounted rotary drill):			
	HEAVY & HIGHWAY	BASE RATE	$22.99
		FRINGE BENEFITS	13.50
Driver, (semi-trailer or pole trailer), driver (dump truck, tandem axle), driver of distributor:			
	HEAVY & HIGHWAY	BASE RATE	$22.65
		FRINGE BENEFITS	13.50
Driver on mixer trucks (all types):	HEAVY & HIGHWAY	BASE RATE	$22.70
		FRINGE BENEFITS	13.50
Truck mechanic:	HEAVY & HIGHWAY	BASE RATE	$22.75
		FRINGE BENEFITS	13.50
Truck helper & Warehouseman:	HEAVY & HIGHWAY	BASE RATE	$22.45
		FRINGE BENEFITS	13.50
Driver on pavement breakers:	HEAVY & HIGHWAY	BASE RATE	$22.80
		FRINGE BENEFITS	13.50

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CLASSIFICATIONS	RATE AND FRINGE BENEFITS

TRUCK DRIVER / HEAVY HIGHWAY CONTINUED:

Driver, Euclid and other heavy earth moving equipment and Low Boy:			
	HEAVY & HIGHWAY	BASE RATE	$23.56
		FRINGE BENEFITS	13.50
Greaser on greasing facilities:	HEAVY & HIGHWAY	BASE RATE	$23.65
		FRINGE BENEFITS	13.50
Driver (Winch Truck & A-Frame Truck) when used in transporting material:			
	HEAVY & HIGHWAY	BASE RATE	$22.55
		FRINGE BENEFITS	13.50

END OF DOCUMENT CR 2-029
OCTOBER 7, 2015
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SECTION 00304
SPECIAL CONDITIONS

INDEX TO SPECIAL CONDITIONS:

1. DEFINITIONS
2. GENERAL
3. ARCHITECT'S WORK PRODUCT
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5. CONFLICTS
6. WORKMANSHIP
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9. NOTICE AND SERVICE THEREOF
10. CODES AND ORDINANCES
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12. STORAGE OF MATERIALS
13. LAYOUT OF BUILDING
14. DAMAGED FACILITIES
15. UNIT PRICES
16. RULES OF MEASUREMENT
17. INTERRUPTION OF UTILITIES
18. CONTRACTOR COORDINATION

1. DEFINITIONS:

1a. The term "OWNER" as used throughout these documents means FLOYD COUNTY BOARD OF EDUCATION, 106 N. FRONT AVE., PRESTONSBURG, KY 41653.

1b. The term "ARCHITECT" as used throughout these documents means SHERMAN CARTER BARNHART , 2405 HARRODSBURG ROAD, LEXINGTON, KY 40504.

1c. The term "MECHANICAL ENGINEER" as used throughout these documents means CMTA CONSULTING ENGINEERS, INC., 2429 MEMBERS WAY, LEXINGTON, KY 40504.

1d. The term "CIVIL ENGINEER" as used throughout these documents means BOCOOK ENGINEERING, 312 TENTH STREET, PAINTSVILLE, KY 41240.

1e. The term "STRUCTURAL ENGINEER" as used throughout these documents means POAGE ENGINEERS & ASSOCIATES, 446 EAST HIGH STREET, LEXINGTON, KY 40507.

1f. The term "CONSTRUCTION MANAGER" as used throughout these documents means Codell Construction Company, 4475 Rockwell Road, P. O. Box 17, Winchester, KY 40392.

1g. The terms "PLANS" and "DRAWINGS" are used interchangeably and are construed to have the same meaning.

2. GENERAL

2a. These specifications and drawings accompanying them describe the work to be done and the materials to be furnished for the FLOYD CENTRAL HIGH SCHOOL .

2b. Should any error or inconsistency appear in the Drawings or Specifications, the Contractor, before proceeding with the work, must make mention of the same to the Architect for proper adjustment and in no case proceed with the work in uncertainty or with insufficient drawings.

2c. The work under this contract does not include any items marked N.I.C. on the drawings (not in contract).

2d. Contractors shall follow sizes in specifications or figures on drawings, in preference to scale measurements and follow detail drawings in preference to general drawings.

2e. Where it is obvious that a drawing illustrates only a part of a given work or of a number of items, the remainder shall be deemed repetitious and included in the contractor's bid and so constructed.

3. ARCHITECT'S WORK PRODUCT:

3a. The Architect's work product is prepared and produced for the sole and exclusive benefit of the Owner. Any real or inferred benefits to third parties is hereby expressly disclaimed.

4. ADMINISTRATION OF THE CONTRACT:

4a. The Architect will perform certain administrative functions of the construction contract. Nothing contained in these contract documents, not any other oral or written agreements, memoranda, or communications shall create any express or implied contractual relationship between the Architect and the Contractor.

4b. The Architect may make periodic visits to the work site in accordance with the conditions of his contract with the Owner. The purpose of these visits and observations is to endeavor to guard against defects and deficiencies, not to supervise Contractor's work.

4c. The Architect makes no express or implied representations of guaranteeing the Contractor's work.

4d. The Architect is not a specialist in construction methods, techniques, sequences, or procedures and therefore assumes no responsibility for the construction operations and safety program.

5. CONFLICTS

5a. If there is any conflict in the General Conditions with the Supplementary Conditions, the Supplementary Conditions shall govern.

6. WORKMANSHIP

6a. The Workmanship shall be of the highest quality, in every respect, as usually recognized in the building industry. Poor or inferior workmanship (as determined by the Construction Manager, Architect, Engineers, or inspecting authorities) is to be removed and replaced to conform to the highest quality standards of the trades concerned, or otherwise corrected.

7. DRAWINGS AND SPECIFICATIONS

7a. The drawing dimensions on the drawings are reasonably accurate and should govern in setting out the work. However, should the Contractor discover discrepancies or inaccuracies, it shall be the Contractor's responsibility to bring them to the attention of the Architect before making any changes. Changes shall be made only with the approval of the Architect. If the Contractor proceeds without advising the Architect, any changes required to comply with the Architect's intent or other aspects of the Project shall be at no additional cost to the Owner.

8. DIVISION OF SPECIFICATIONS:

8a. Division of Specifications into sections is done for convenience of reference and is not intended to control contractors into dividing work among subcontractors or to limit scope of work performed by any trade under any given section.

9. NOTICE AND SERVICE THEREOF:

9a. Any notice to any Contractor from the Owner relative to any part of this contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by registered mail, to the said contractor at his last address, or delivered in person to said Contractor or his authorized representative on the work.

10. CODES AND ORDINANCES:

10a. All branches of the work shown on the plans or specified, whether specifically mentioned or not, shall be executed in strict compliance, with all local or state regulations and codes, and shall be in compliance with all National Codes, when same have jurisdiction.

11. SUBSTANTIAL COMPLETION, FINAL COMPLETION, AND SUBSEQUENT REVIEWS:

11a. In as much as all parties intend to prosecute the work in a diligent and good faith manner, and to complete the work in a timely fashion, the Construction Manager shall notify the Architect when the Construction Manager believes Substantial Completion has been achieved. Notification in writing shall be made at least five (5) calendar days prior to the date set to the Substantial Completion review. All Contractors shall comply with the prerequisite requirements for Substantial Completion as set forth in the specifications.

11b. Review Procedures. Upon receipt of the Construction Manager's request, the Architect will either proceed with review or advise the Construction Manager of prerequisites not fulfilled. Following initial review, the Architect will either verify a certificate of Substantial Completion may be prepared by the Construction Manager, or advise in writing to the Construction Manager work which must be performed prior to issuance of the Certificate of Substantial Completion.

The Architect will repeat the review when requested and assured by the Construction Manager, in writing, that the Work has been substantially completed. Results of the completed review will form the initial "punch list" for final acceptance.

11c. The Architect will review the work upon receipt of the Construction Manager's notice that he believes in good faith that, except for those items whose completion has been delayed due to circumstances that are acceptable to the Architect, the work has been completed, including punch list items from earlier reviews. Upon completion of review, the Architect will either recommend final acceptance and final payment, or will advise the Contractor of work not completed or obligations not fulfilled as required for final acceptance by issuance of another punch list.

11d. The Construction Manager, upon completion of all outstanding items set forth on the punch list, shall notify the Architect of the completion of the work. The Architect shall verify completion of the work by an on-site review.

11e. In the event that the work should still require further reviews after initial final review, unless through no fault of the Contractor, the Contractor agrees the Owner will deduct from the remaining available construction funds those monies which represent the Architect's normal hourly compensation rates and normal expenses for any additional time and expense expended on this project by the Architect. Hourly rates and expense reimbursement rates will be governed by those rates stipulated in the agreement between the Owner and the Architect. The disbursement of available construction funds by the Owner to the Architect in the aforegoing situation, described herein, shall represent only actual charges associated with the expenditure of the Architect's time and expense and in no way represent a penalty assessed to the Contractor.

12. STORAGE OF MATERIALS:

12a. Each Contractor providing materials and equipment shall be responsible for the proper and adequate storage of his materials and equipment, and for the removal of same upon completion of his work. Storage of materials at the site shall be confined to areas within the Contract Limits, and the Contractor's designated parking area if necessary, where designated by the Construction Manager.

13. LAYOUT OF BUILDING:

13a. Each Contractor providing materials and equipment shall be responsible for the proper and adequate storage of his materials and equipment, and for the removal of same upon completion of his work. Storage of materials at the site shall be confined to areas within the Contract Limits, and the Contractor's designated parking area if necessary, where designated by the Construction Manager.

13b. Each contractor shall be prepared to guarantee each of his subcontractors the dimensions which they may require for the layout and fitting of their work to the surrounding work.

14. DAMAGED FACILITIES

14a. Each contractor shall repair and/or replace, at no expense to the Owner, any sections of existing roads, drives, streets, sidewalks, curbs, utilities, buildings and other structures damaged by reason of work performed under this Contract or incidental thereto, whether by his own forces or by his subcontractors or by his material suppliers.

15. UNIT PRICES:

15a. The Unit Price for each of the items set forth in the Form of Proposal shall become a part of the Contract.

15b. All Unit Prices are subject to review by the Owner and Architect prior to being accepted for contract purposes.

15c. All subcontractors shall be bound by the Unit Prices of each contractor.

15d. It is mutually understood and agreed that such Unit Prices include all items of cost, overhead, and profit for the Contractor and any subcontractors(s) involved, and that they shall be used uniformly without modification for either additions or deductions.

15e. The Rules of Measurement, as specified in Paragraph 17 of this Section, shall apply in the use of Unit Prices.

15f. Each Unit Price involving earthwork shall cover, among other things, engineering (surveying) costs and all costs of keeping excavations dry.

16. RULES OF MEASUREMENT:

16a. The following Rules of Measurement shall apply in the use of Unit Prices:

16a.1. Except as provision is made hereinafter for arbitrary measurements, the quantity of excavation shall be its in-place volume before removal.

16a.2. No allowance will be made for excavating additional material of any nature taken out for the convenience of the Contractor, beyond the quality computed under these Rules of Measurement.

16a.3. The quantities of excavation shall be computed from instrument readings in vertical cross sections located at such intervals as will assure accuracy.

16a.4. General excavation for buildings and sections of buildings, bases for equipment, sump its, etc., involving an area of 200 or more square feet, shall be classified as "Mass Excavation.

16a.5. Excavation for pipes, wall footings, grade beams, column footings, and sections of buildings such as bases for equipment, sump pits, etc., involving an area of 200 or more square feet, shall be classified as "Mass Excavation".

16a.6. "Mass Excavation" shall arbitrarily be assumed to extend to vertical planes two (2) feet outside wall lines, and to the elevation of plan subgrade.

16a.7. "Trench Excavation" for walls, grade beams, and sections of building, such as bases for equipment, sump pits, etc., involving an area less than 200 square feet shall be arbitrarily assumed to extend two (2) feet wider than wall and grade beam thicknesses and outside walls of sections of buildings such as bases for equipment, sump pit, etc., but in no case less than three (3) feet wide sides vertical.

16a.8. "Trench Excavation" for pipes shall be arbitrarily be assumed to be two (2) feet wider than the outside diameter of the pipe barrel and with sides vertical.

16a.9. "Trench Excavation" for wall footings and column footings shall be computed as vertical shafts, each with a horizontal cross section identical in shape and size with the plan of the footing.

16a.10. The quantities of form work will be the area of forms in contact with concrete.

16a.11. Concrete quantities shall be computed from plan size or if there are no drawings, from actual measurement of the work ordered and placed, waste excluded.

17. INTERRUPTION OF UTILITIES:

17A. Utility services to existing facilities shall not be interrupted unless absolutely necessary. Interruptions shall be of minimum duration and shall be scheduled to cause the least possible inconvenience. In all cases, the Owner shall be notified well in advance of an anticipated interruption of utilities.

18. CONTRACTOR COORDINATION:

18a. Each contractor and all subcontractors and other on-site contractors shall cooperate and coordinate their work to expedite the progress of the project. All subcontractors shall review and refer to the drawings and specifications of other trades involved with their particular work before proceeding. Any work installed which conflicts with another trade and had not been brought to the attention of the Architect prior to installation shall be removed and reinstalled at no additional expense to the Owner.

END OF SPECIAL CONDITIONS

SECTION 00400

Kentucky Department of Education Version of AIA® Document A132™ – 2009

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

KENTUCKY DEPARTMENT OF EDUCATION
Every Child Proficient and Prepared for SUCCESS

This version of AIA Document A132™–2009 is modified by the Kentucky Department of Education. Publication of this version of AIA Document A132–2009 does not imply the American Institute of Architects' endorsement of any modification by the Kentucky Department of Education. A comparative version of AIA Document A132–2009 showing additions and deletions by the Kentucky Department of Education is available for review on the Kentucky Department of Education Web site.

Cite this document as "AIA Document A132™–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition — KDE Version," or "AIA Document A132™–2009 — KDE Version."

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Kentucky Department of Education Version of AIA® Document A132™ – 2009

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

AGREEMENT made as of the day of
in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

The Construction Manager:
(Name, legal status, address and other information)

The Architect:
(Name, legal status, address and other information)

KENTUCKY DEPARTMENT OF EDUCATION

This version of AIA Document A132–2009 is modified by the Kentucky Department of Education. Publication of this version of AIA Document A132 does not imply the American Institute of Architects' endorsement of any modification by the Kentucky Department of Education. A comparative version of AIA Document A132–2009 showing additions and deletions by the Kentucky Department of Education is available for review on the Kentucky Department of Education Web site.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with KDE versions of AIA Documents A232™–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132™–2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

AIA Document A232™–2009 — KDE Version is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

The Owner and Contractor agree as follows.

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ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Owner direct Purchase Orders, Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement, if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

If, prior to the commencement of the Work, the Owner requires time to file mortgages, mechanics' liens and other security interests, the Owner's time requirement shall be as follows:

§ 3.2 The Contract Time shall be measured from the date of commencement.

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§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than
( ) days from the date of commencement, or as follows:
(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work. Either list requirements for earlier Substantial Completion here or refer to an exhibit attached to this Agreement.)

Portion of the Work	Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

§ 3.4 Liquidated Damages. As actual damages for delay in completion of Work are impossible to determine, the Contractor and his Surety shall be liable for and shall pay to the Owner the sum of
($),
not as a penalty, but as fixed, agreed and liquidated damages for each calendar day of delay until the Contract Work is substantially completed as defined in the General Conditions of the Contract for Construction. The Owner shall have the right to deduct liquidated damages from money in hand otherwise due, or to become due, to the Contractor, or to sue and recover compensation for damages for failure to substantially complete the Work within the time stipulated herein. Said liquidated damages shall cease to accrue from the date of Substantial Completion.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be a Stipulated Sum in accordance with Section 4.2 below, less the Owner's direct Purchase Orders, if any, for Project materials or equipment.

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§ 4.2 Stipulated Sum

§ 4.2.1 The Stipulated Sum shall be

($), subject to additions and deletions as provided in the Contract Documents.

(List the base bid amount, sum of accepted alternates, total construction cost (the sum of base bid amount plus sum of accepted alternates), sum of Owner's direct Purchase Orders. The Contract Sum shall equal the sum of Total Construction Cost, less Owner direct Purchase Orders. Either list this information here or refer to an exhibit attached to this Agreement.)

	Amount
Base Bid	$
Sum of Accepted Alternates	$
Total Construction Cost (the sum of base bid amount plus sum of accepted alternates)	$
Sum of Owner's direct Purchase Orders	$
Contract Sum (total construction cost less Owner direct Purchase Orders)	$

§ 4.2.2 The Stipulated Sum is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires. Either list alternates here or refer to an exhibit attached to this Agreement.)

Number	Item Description	Amount
	Total of Alternates	

§ 4.2.3 Unit prices, if any:

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(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable. Either list unit prices here or refer to an exhibit attached to this Agreement.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.2.4 Allowances included in the Stipulated Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price. Either list allowances here or refer to an exhibit attached to this Agreement.)

Item	Price

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and upon certification of the Project Application and Project Certificate for Payment or Application for Payment and Certificate for Payment by the Construction Manager and Architect and issuance by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the day of a month, the Owner shall make payment of the certified amount in the Application for

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Payment to the Contractor not later than the day of the month. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment shall be made by the Owner not later than ( ) days after the Construction Manager receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.4.3 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of percent (%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in Section 7.3.9 of the General Conditions;

.2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of percent (%);

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of the General Conditions.

§ 5.1.4.4 The progress payment amount determined in accordance with Section 5.1.4.3 shall be further modified under the following circumstances:

.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to percent (%) of the Contract Sum, less such amounts as the Construction Manager recommends and the Architect determines for incomplete Work and unsettled claims; and

.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of the General Conditions.

§ 5.1.4.5 When Owner direct Purchase Orders are used, retainage that would otherwise be held on materials and equipment shall transfer to the Contractor, and the material suppliers will be paid the full amount of their invoices. The Owner shall retain ten percent (10%) from each Application for Payment, and an amount equal to ten percent (10%) of approved Purchase Order payments, up to fifty percent (50%) completion of the Work, then provided the Work is on schedule and satisfactory, and upon written request of the Contractor together with consent of surety and the recommendation of the Architect, the Owner shall approve a reduction in Retainage to five percent (5%) of the current Contract Sum plus Purchase Orders. No part of the five percent (5%) retainage shall be paid until after Substantial Completion of the Work, as defined in the General Conditions of the Contract for Construction. After Substantial Completion, if reasons for reduction in retainage are certified in writing by the Architect, a reduction to a lump sum amount less than the five percent (5%) retainage may be approved by the Owner when deemed reasonable. The minimum lump sum retainage shall be twice the estimated cost to correct deficient or incomplete work.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

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.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2 of AIA Document A232–2009 — KDE Version, and to satisfy other requirements, if any, which extend beyond final payment;

.2 (Not Used)

.3 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect; such final payment shall be made by the Owner not more than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment: and

.4 Neither the final payment nor any part of the remaining retained percentage of all payments shall become due until the Contractor delivers to the Owner an affidavit that all payrolls, bills for materials, supplies and equipment, and other indebtedness connected with the work have been paid or otherwise satisfied and Consent of Surety to make final payments is received.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A232–2009 — KDE Version, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A232–2009 — KDE Version, the method of binding dispute resolution shall be as follows:
(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

☐ Arbitration pursuant to Section 15.4 of AIA Document A232–2009 — KDE Version.

☐ Litigation in a court of competent jurisdiction where the Project is located.

☐ Other: (Specify)

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2009 — KDE Version.

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2009 — KDE Version; in such case, the Contract Sum and Contract Time shall be increased as provided in Section 14.3.2 of AIA Document A232–2009 — KDE Version.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2009 — KDE Version or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

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§ 8.3 The Owner's representative:
(Name, address and other information)

§ 8.4 The Contractor's representative:
(Name, address and other information)

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A132–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition — KDE Version.

§ 9.1.2 The General Conditions are, AIA Document A232–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition — KDE Version.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

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(Either list Supplementary and other Conditions of the Contract here or refer to an exhibit attached to this Agreement.)

Document	Title	Date	Pages

§ 9.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Section	Title	Date	Pages

§ 9.1.5 The Drawings:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Number	Title	Date

§ 9.1.6 The Addenda, if any:

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(Either list the Addenda here or refer to an exhibit attached to this Agreement.)

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents are:

.1

.2

.3

.4 Other documents, if any, listed below:
(List here any additional documents which are intended to form part of the Contract Documents. AIA Document A232–2009 — KDE Version provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

A. AIA Document A701™–1997, Instructions to Bidders — KDE Version

B. Contractor's Form of Proposal

C. KDE Purchase Order Summary Form

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A232–2009 — KDE Version.

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(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A232–2009 — KDE Version. Either list insurance and bond information here or refer to an exhibit attached to this Agreement.)

Type of Insurance or Bond	Limit of Liability or Bond Amount ($0.00)

This Agreement is entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)*

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SECTION 00450

Kentucky Department of Education Version of AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

KENTUCKY DEPARTMENT OF EDUCATION

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This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

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Init.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a 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 Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.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, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven 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 Section 5.4, and the Owner refuses the payment 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.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.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 Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction 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, successors and assigns.

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

§ 11 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 a declaration of 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.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction 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. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction 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 Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

§ 16.1 Surety Company shall be licensed to conduct business in the Commonwealth of Kentucky.

§ 16.2 Insurance Agency and Agents issuing bond shall be registered and licensed to conduct business in the Commonwealth of Kentucky with the appropriate Power of Attorney included.

§ 16.3 Bond shall comply with all statutory requirements of the Commonwealth of Kentucky including the Kentucky Unemployment Insurance Law.

§ 16.4 No suit, action or proceeding by reason or any default whatever shall be brought on this bond after two (2) years from the date on which final payment of the contract fall due and provided further that if any alterations or additions which may be made under the contract or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal shall not, in any way, release the Principal and Surety, or either of them, their heirs, executors, administrators, successors, or assigns for their liability hereunder. Notice to the Surety of any such alterations, extensions, or forbearance being expressly waived.

This obligation shall remain in force and effect until the performance of all covenants, terms and conditions herein stipulated and after such performance, it shall become null and void.

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

Kentucky Department of Education Version of AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

KENTUCKY DEPARTMENT OF EDUCATION

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§ 1 The Contractor and 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 Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

.2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction 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 Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any

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Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, 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.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction 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. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum

.1 the name of the Claimant;
.2 the name of the person for whom the labor was done, or materials or equipment furnished;
.3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
.4 a brief description of the labor, materials or equipment furnished;
.5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
.6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
.7 the total amount of previous payments received by the Claimant; and
.8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 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 Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. 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 Construction 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.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

§ 18.1 Surety Company shall be licensed to conduct business in the Commonwealth of Kentucky.

§ 18.2 Insurance Agency and Agents issuing bond shall be registered and licensed to conduct business in the Commonwealth of Kentucky with the appropriate Power of Attorney included.

§ 18.3 Bond shall comply with all statutory requirements of the Commonwealth of Kentucky including the Kentucky Unemployment Insurance Law.

§ 18.4 No suit, action or proceeding by reason or any default whatever shall be brought on this bond after two (2) years from the date on which final payment of the contract fall due and provided further that if any alterations or additions which may be made under the contract or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the contract or any other forbearance on the part of either the Owner or the Principal shall not, in any way, release the Principal and Surety, or either of them, their heirs, executors, administrators, successors, or assigns for their liability hereunder. Notice to the Surety of any such alterations, extensions, or forbearance being expressly waived.

This obligation shall remain in force and effect until the performance of all covenants, terms and conditions herein stipulated and after such performance, it shall become null and void.

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

AIA Document G732™ – 2009

APPLICATION AND CERTIFICATE FOR PAYMENT

AIA DOCUMENT G732/CMa

CONSTRUCTION MANAGER-ADVISER EDITION

PAGE ONE OF 2 PAGES

TO OWNER:

PROJECT:

APPLICATION

PERIOD TO:

PROJECT NO:

CONTRACT DATE:

Distribution to:
- ☐ OWNER
- ☐ CONSTRUCTION MANAGER
- ☐ ARCHITECT
- ☐ CONTRACTOR

FROM CONTRACTOR:

CONTRACT FOR:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Document G703, is attached.

1. MODIFIED CONTRACT SUM		$
2. Net change by Change Orders		$
3. CONTRACT SUM TO DATE (Line 1 ± 2)		$
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)		$
5. RETAINAGE:		
a. 0 % of Completed Work (Column D + E on G703)	$	
b. % of Stored Material (Column F on G703)	$	
Total Retainage (Lines 5a + 5b or Total in Column I of G703)		$ 0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 less Line 5 Total)		$ 0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)		$
8. CURRENT PAYMENT DUE		$ 0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)	$	0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total approved in previous months by Owner		
Total approved this month including Construction Change Directives		
TOTALS	$0.00	$0.00
NET CHANGES by Change Order		

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:
By: _____ Date: _____
State of:
County of:
Subscribed and sworn to before me this day of
Notary Public:
My Commission expires:

CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on evaluations of the Work and the data comprising this application, the Construction manager and Architect certify to the Owner that to the best of their knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED $ 0.00

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that changed to conform to the
CONSTRUCTION MANAGER:

By: _____ Date: _____

ARCHITECT: (*NOTE: If Multiple Prime Contractros are responsible for performing portions of the Project, the Architect's Certification is not required.*

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

AIA DOCUMENT G702/CMa · APPLICATION AND CERTIFICATION FOR PAYMENT · CONSTRUCTION MANAGER-ADVISER EDITION · 1992 EDITION · AIA® · © 1992
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G702/CMa-1992
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CONTINUATION SHEET

AIA DOCUMENT G703

PAGE OF PAGES

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:

APPLICATION DATE:

PERIOD TO:

ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)	WORK COMPLETED THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
	GRAND TOTALS								

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity

SECTION 00650

Mechanic's Lien and Tax Release
Certification of Payment of Debts and Claims

State of _____)

County of _____)

WHEREAS, under date of the _____ day of _____, ____, FLOYD COUNTY BOARD OF EDUCATION, as Owner, did enter into an agreement with _____ as Contractor, for construction of the FLOYD CENTRAL HIGH SCHOOL at 889 KY RT. 680, EASTERN, KY 41622 - Bid Package ___.

AND, WHEREAS, Contractor has completed all work required by the above-referenced agreement; Now this statement under oath is given in compliance with the provisions of any applicable Mechanic's Lien Law and to enable said Contractor to receive his final payment from the Owner. The Contractor further says that all lienors contracting directly with, or directly employed by him, on or in connection with the agreement have been paid in full. The Contractor also certifies that any and all liens, assessments, charges and taxes with respect to the above-described agreement, including, but not limited to, sales or use taxes, and penalties and interest with respect thereto, have been paid.

We further certify that we have complied with the provisions and requirements of all federal and state labor laws and wage requirements as set forth in the agreement and that all bills, wages, rentals, taxes and accounts of every nature relating to said project have been paid in full.

Furthermore, Contractor does Hereby Indemnify and Hold Harmless **FLOYD COUNTY BOARD OF EDUCATION** from any and all claims, actions, or demands which may exist or arise by any reason whatsoever from the nonpayment or incomplete payment, whether or not intentional or with knowledge by Contractor or lienors described above or any of the above-stated taxes.

_____
Contractor

By: _____

SWORN TO AND SUBSCRIBED BEFORE ME, this _____ day of _____, _____.

_____Notary Public

SECTION 00550

AIA Document G706™ – 1994

Contractor's Affidavit of Payment of Debts and Claims

OWNER	X
ARCHITECT	X
CONTRACTOR	X
SURETY	X
OTHER	

PROJECT: *(Name and address)*
FLOYD CENTRAL HIGH SCHOOL
889 KY RT. 680 EASTERN KY 41622

TO OWNER: *(Name and address)*
FLOYD COUNTY BOARD OF EDUCATION
106 N. FRONT AVE.
PRESTONSBURG, KY 41653
TO CM:
Codell Construction Company
PO Box 17
Winchester KY 40392-0017

ARCHITECT'S PROJECT NUMBER:
BID PACKAGE: 31 - SCOREBOARDS AND VIDEO DISPLAY SYSTEMS
CONTRACT FOR:
CONTRACT DATED:

STATE OF:
COUNTY OF:
The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor and the Owner for damages arising in any manner in connection with the performance of the Contract referenced above.
EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment ☐ Yes ☐ No

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR: *(Name and address)*

BY:

(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:

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User Notes:
(436928874)

SECTION 00600

AIA Document G707™ – 1994

Consent Of Surety to Final Payment

OWNER	X
ARCHITECT	X
CONTRACTOR	X
SURETY	X
OTHER	

PROJECT: *(Name and address)*
FLOYD CENTRAL HIGH SCHOOL
889 KY RT. 680 EASTERN KY 41622

ARCHITECT'S PROJECT NUMBER:
CONSTRUCTION MANAGER PROJECT # 656
CONTRACT FOR:
CONTRACT DATED:

TO OWNER: *(Name and address)*
FLOYD COUNTY BOARD OF EDUCATION
106 N. FRONT AVE.
PRESTONSBURG, KY 41653

In accordance with the provisions of the contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

, **SURETY**,

on bond of
(Insert name and address of Contractor)

,**CONTRACTOR**,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)
FLOYD COUNTY BOARD OF EDUCATION
106 N. FRONT AVE., PRESTONSBURG, KY 41653

,**OWNER**,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand in this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)

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User Notes: (2843275340)

SECTION 00620

AIA® Document G706A™ – 1994

Contractor's Affidavit of Release of Liens

OWNER	X
ARCHITECT	X
CONTRACTOR	X
SURETY	X
OTHER	

PROJECT: *(Name and address)*
FLOYD CENTRAL HIGH SCHOOL
889 KY RT. 680 EASTERN KY 41622

ARCHITECT'S PROJECT NUMBER:
CONTRACT FOR: 31
CONTRACT DATED:

TO OWNER: *(Name and address)*
FLOYD COUNTY BOARD OF EDUCATION
106 N. FRONT AVE.
PRESTONSBURG, KY 41653

STATE OF:
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.

2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

BY:

(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:

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User Notes: (564650863)

SECTION 01000
SITE CONDITIONS

1. The site is located as follows: 889 KY RT. 680, EASTERN, KY 41622.

2. All contractors shall examine the site of the construction for top configurations, foliage, ground structures, existing structures and all other pertinent conditions, and be familiar with work to be performed as hereinafter specified and as outlined on the Drawings.

3. All contractors shall exercise extreme caution while performing work in the area of existing underground work. Locate all underground utilities by careful hand excavation and provide all necessary and proper protection from damage.

4. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavating, consult Architect, Engineer or CM immediately for directions as to procedure. Cooperate with the Owner and public and private utility companies in keeping their respective services and facilities in operation. Repair damaged utilities to the satisfaction of the utility owner, and at no cost to the owner.

5. Do not interrupt existing utilities serving facilities occupied and used by the Owner or others, except when permitted in writing by the Architect/Engineer or CM, and then only after temporary utility services have been provided.

6. Each Contractor shall perform his layout and grade work. CM reserves the right to check Contractors work at his discretion. Contractor will, upon request, assist the CM with verification of Contractor's work.

7. Each Contractor shall compare all levels given on drawings with actual levels and shall call attention to discrepancies if any occur.

8. Each Contractor shall verify and document with the Construction Manager all lines and levels and be responsible for the proper location of all his work.

9. The Contractor shall at all times enforce strict discipline and good order among the Contractor's employees. Any person conducting themselves in an inappropriate manner will be removed from the jobsite at the request of the Owner, Architect, Construction Manager, or their employer. There will be no loitering by any employees on the Owner's property before or after the normal working hours for this project. Special effort shall be made by Contractor to prevent employees from entering unauthorized areas.

10. For the duration of the Contract, each Contractor shall maintain all excavations, embankments, haul roads, access roads, parking lots, borrow areas, and all other work areas free from dust or mud, as determined by the Construction Manager. Industrial-accepted method of dust control suitable for the area involved, such as sprinkling, chemical treatment, or similar methods, will be permitted. All parking areas and roadways will be cleaned as required by the Construction Manager. No separate payment will be made for dust or mud control.

11. Contractor shall not permit fires within or adjacent to the limits of the project sites and shall be liable for all damage from any fire due directly, or indirectly, to its own activities or to those activities of its employees or of its subcontractors or any of their employees. Contractor shall provide portable fire extinguisher compatible with the hazard of each work area and shall instruct its personnel in their location and use. Wherever welding and burning are conducted, inflammable materials shall be protected and a fire watch shall be provided by Contractor to be present during the burning and welding operation to ensure that protective operation. The fire watch shall have extinguisher equipment readily available and know-how for proper use.

12. Any existing roads, walks, grassed areas or facilities damaged or destroyed shall be repaired or replaced to the satisfaction of the Architect, Construction Manager, and Owner. The expense will be borne completely by the Contractor or Material Supplier responsible.

13. The Contractor will be responsible for keeping all roadways clean.

14. The use of drugs and alcohol is prohibited on the project site.

15. Firearms are prohibited on the project site.

SECTION 01010
CONSTRUCTION SCHEDULE

1.1 The Construction Manager is to establish and monitor the overall project construction schedule based upon milestone dates tied to the Owner's Notice to Proceed. Each Contractor shall cooperate with the Construction Manager to establish realistic delivery dates, manpower requirements and time frames required for the proper scheduling of the job. A copy of the Project Schedule shall be displayed at the job site at all times. The Construction Manager shall update this schedule periodically if required and establish new milestone dates. It shall be each Contractor's responsibility to keep himself advised of the job progress and the effects upon his work.

1.2 It shall be mutually understood and agreed by the Contractor and other parties to the Contract that time is of the essence. In event that the Contractor fails to substantially complete work to be performed under this Contract by and at applicable completion time bid in the proposal, including any extension of time granted under General Conditions, the Contractor shall pay to the Owner $1,000.00 (One Thousand Dollars and No Cents) per calendar day as liquidated damages for the duration of the delay period. This amount applies to each bid division and will not be proportioned if more than one Contractor is proven at fault in causing the delay. In no event shall any delays or extensions of time be construed as cause or justification for payment of extra compensation to the Contractor.

1.3 The following Project Construction Schedule is based upon milestone dates established by specific time periods, in calendar days, from the Notice to Proceed. Adjustment of the date of Notice to Proceed or other adjustments not the fault of or not controlled by the Contractor shall cause the Project Construction Schedule milestone dates to be adjusted accordingly.

1.4 Project Construction Schedule: Final Completion is (60) Calendar Days from Notice to Proceed. See schedule attached in Vol 1 and also the complete Floyd Central Schedule. This bid package is responsible to coordinate with full project schedule and contractors to provide timely installation and completion.

1.5 Upon acknowledgment of the Notice to Proceed and continuing throughout the Contract, the Contractor shall record on the daily report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically for the first to

the last day of each month, and be recorded as full days. The Construction Manager will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a letter in accordance with the appropriate Contract conditions (a day for a day). Contractors are not entitled to seek compensation for weather delay days and waive any right to claim such compensation.

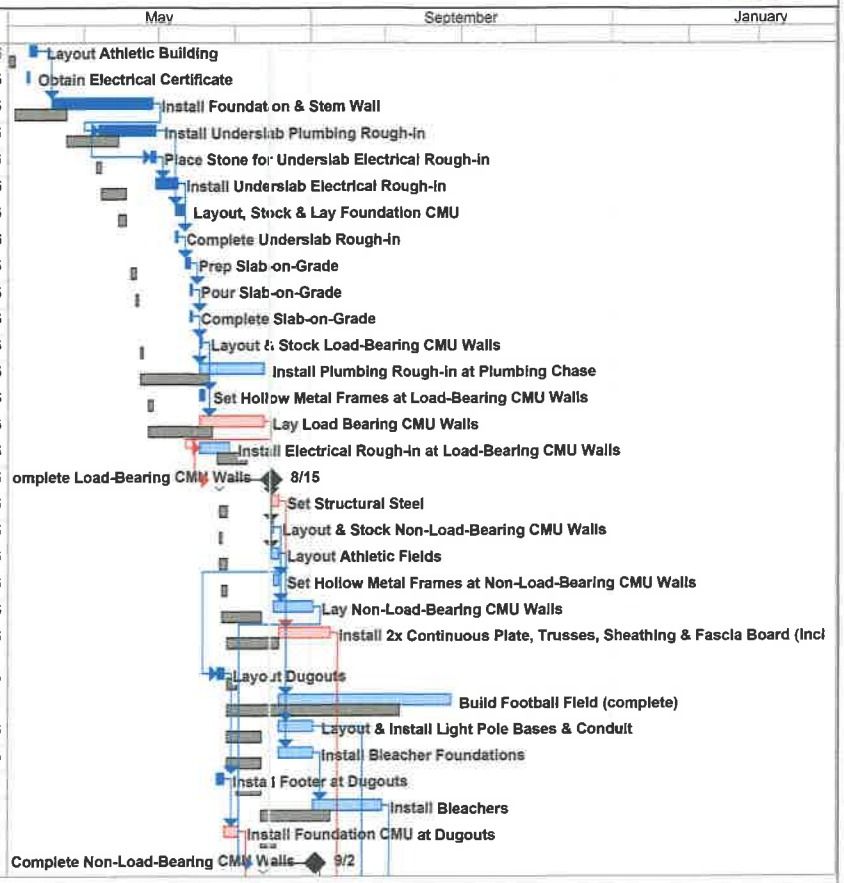
1.6 The "float" contained within the schedule belongs to the schedule which is maintained by the CM. Therefore, the schedule may not be affected by a time extension due to the available float within the schedule.

1.7 The original baseline schedule is issued to all contractors prior to bid with the working durations listed for a contractor to complete a certain task. The contractor must consider these durations in their bid as these durations will not change after bids are placed. Each contractor must bid the project with manpower requirements to meet the durations listed. NO EXCEPTIONS.

1.8 The calendar timeline shown on the schedule is the most logical sequencing for each task to occur. These dates may or may not change depending on the start of the project or possible delays of a preceding task(s). The contractor must be flexible with the calendar as delays can occur that are unknown at the issuance of this schedule. Codell Construction Company will issue a tracking schedule at each monthly progress meeting with a current working schedule to notify each contractor of possible delays, change orders and/or early starts of all work tasks.

Floyd Central High School Athletic Complex
Eastern, Kentucky

ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
1	Layout Athletic Building	2 days	5/2/16	5/10/16	5/3/16	5/12/16
2	**Obtain Electrical Certificate**	**0 days**	**5/2/16**	5/9/16	**5/2/16**	5/9/16
3	Install Foundation & Stem Wall	15 days	5/4/16	5/19/16	5/24/16	6/28/16
4	Install Underslab Plumbing Rough-in	15 days	5/25/16	6/7/16	6/14/16	6/29/16
5	Place Stone for Underslab Electrical Rough-in	2 days	6/6/16	6/28/16	6/7/16	6/29/16
6	Install Underslab Electrical Rough-in	8 days	6/8/16	6/30/16	6/17/16	7/8/16
7	Layout, Stock & Lay Foundation CMU	3 days	6/15/16	7/8/16	6/17/16	7/11/16
8	**Complete Underslab Rough-in**	**0 days**	**6/17/16**	7/8/16	**6/17/16**	7/8/16
9	Prep Slab-on-Grade	2 days	6/20/16	7/12/16	6/21/16	7/13/16
10	Pour Slab-on-Grade	1 day	6/22/16	7/14/16	6/22/16	7/14/16
11	**Complete Slab-on-Grade**	**0 days**	**6/23/16**	7/14/16	**6/23/16**	7/14/16
12	Layout & Stock Load-Bearing CMU Walls	1 day	6/24/16	7/18/16	6/24/16	7/18/16
13	Install Plumbing Rough-in at Plumbing Chase	20 days	6/24/16	7/18/16	7/21/16	8/12/16
14	Set Hollow Metal Frames at Load-Bearing CMU Walls	2 days	6/27/16	7/18/16	6/28/16	7/19/16
15	Lay Load Bearing CMU Walls	20 days	6/27/16	7/18/16	7/22/16	8/12/16
16	Install Electrical Rough-in at Load-Bearing CMU Walls	10 days	7/25/16	7/18/16	8/5/16	7/29/16
17	**Complete Load-Bearing CMU Walls**	**0 days**	7/25/16	8/15/16	7/25/16	8/15/16
18	Set Structural Steel	3 days	7/26/16	8/16/16	7/28/16	8/18/16
19	Layout & Stock Non-Load-Bearing CMU Walls	1 day	7/26/16	8/16/16	7/26/16	8/16/16
20	Layout Athletic Fields	3 days	7/26/16	8/16/16	7/28/16	8/18/16
21	Set Hollow Metal Frames at Non-Load-Bearing CMU Walls	2 days	7/27/16	8/17/16	7/28/16	8/18/16
22	Lay Non-Load-Bearing CMU Walls	12 days	7/27/16	8/17/16	8/11/16	9/1/16
23	Install 2x Continuous Plate, Trusses, Sheathing & Fascia Board (includes attic framing)	15 days	7/29/16	8/19/16	8/18/16	9/8/16
24	Layout Dugouts	2 days	7/29/16	7/25/16	8/1/16	7/27/16
25	Build Football Field (complete)	50 days	7/29/16	8/19/16	10/6/16	10/27/16
26	Layout & Install Light Pole Bases & Conduit	10 days	7/29/16	8/19/16	8/11/16	9/1/16
27	Install Bleacher Foundations	10 days	7/29/16	8/19/16	8/11/16	9/1/16
28	Install Footer at Dugouts	8 days	8/2/16	7/25/16	8/11/16	7/27/16
29	Install Bleachers	20 days	8/12/16	9/2/16	9/8/16	9/29/16
30	Install Foundation CMU at Dugouts	4 days	8/12/16	7/28/16	8/17/16	8/2/16
31	**Complete Non-Load-Bearing CMU Walls**	**0 days**	**8/12/16**	9/2/16	**8/12/16**	9/2/16



Issued at 8-4-16 MMM

Critical

Milestone

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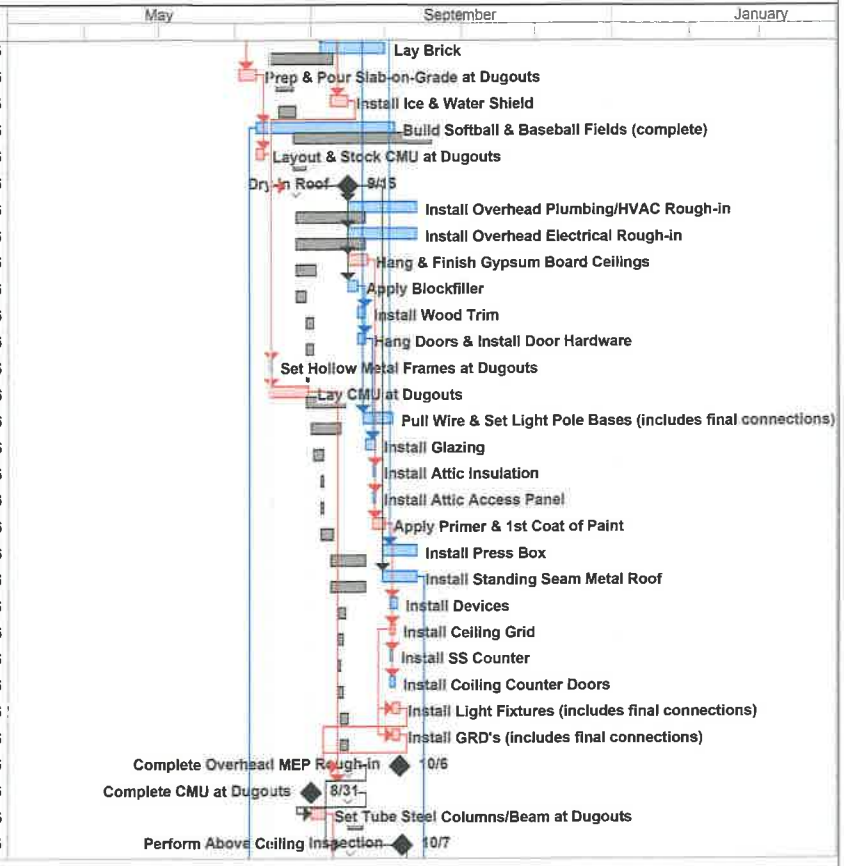
Floyd Central High School Athletic Complex
Eastern, Kentucky

ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
32	Lay Brick	20 days	8/15/16	9/5/16	9/9/16	9/30/16
33	Prep & Pour Slab-on-Grade at Dugouts	5 days	8/18/16	8/3/16	8/24/16	8/9/16
34	Install Ice & Water Shield	5 days	8/19/16	9/9/16	8/25/16	9/15/16
35	Build Softball & Baseball Fields (complete)	40 days	8/25/16	8/10/16	10/19/16	10/4/16
36	Layout & Stock CMU at Dugouts	3 days	8/25/16	8/10/16	8/29/16	8/12/16
37	**Dry-in Roof**	0 days	8/25/16	9/15/16	8/25/16	9/15/16
38	Install Overhead Plumbing/HVAC Rough-in	20 days	8/26/16	9/16/16	9/22/16	10/13/16
39	Install Overhead Electrical Rough-in	20 days	8/26/16	9/16/16	9/22/16	10/13/16
40	Hang & Finish Gypsum Board Ceilings	6 days	8/26/16	9/16/16	9/2/16	9/23/16
41	Apply Blockfiller	2 days	8/26/16	9/16/16	8/29/16	9/19/16
42	Install Wood Trim	3 days	8/30/16	9/20/16	9/1/16	9/22/16
43	Hang Doors & Install Door Hardware	3 days	8/30/16	9/20/16	9/1/16	9/22/16
44	Set Hollow Metal Frames at Dugouts	1 day	8/30/16	8/15/16	8/30/16	8/15/16
45	Lay CMU at Dugouts	12 days	8/30/16	8/15/16	9/14/16	8/30/16
46	Pull Wire & Set Light Pole Bases (includes final connections)	8 days	9/1/16	9/22/16	9/12/16	10/3/16
47	Install Glazing	2 days	9/2/16	9/23/16	9/5/16	9/26/16
48	Install Attic Insulation	1 day	9/5/16	9/26/16	9/5/16	9/26/16
49	Install Attic Access Panel	1 day	9/5/16	9/26/16	9/5/16	9/26/16
50	Apply Primer & 1st Coat of Paint	5 days	9/5/16	9/26/16	9/9/16	9/30/16
51	Install Press Box	10 days	9/9/16	9/30/16	9/22/16	10/13/16
52	Install Standing Seam Metal Roof	10 days	9/9/16	9/30/16	9/22/16	10/13/16
53	Install Devices	3 days	9/12/16	10/3/16	9/14/16	10/5/16
54	Install Ceiling Grid	2 days	9/12/16	10/3/16	9/13/16	10/4/16
55	Install SS Counter	1 day	9/12/16	10/3/16	9/12/16	10/3/16
56	Install Coiling Counter Doors	2 days	9/12/16	10/3/16	9/13/16	10/4/16
57	Install Light Fixtures (includes final connections)	3 days	9/13/16	10/4/16	9/15/16	10/6/16
58	Install GRD's (includes final connections)	3 days	9/13/16	10/4/16	9/15/16	10/6/16
59	**Complete Overhead MEP Rough-in**	**0 days**	**9/15/16**	10/6/16	**9/15/16**	10/6/16
60	**Complete CMU at Dugouts**	**0 days**	**9/15/16**	8/31/16	**9/15/16**	8/31/16
61	Set Tube Steel Columns/Beam at Dugouts	4 days	9/16/16	9/1/16	9/21/16	9/6/16
62	**Perform Above Ceiling Inspection**	0 days	9/16/16	10/7/16	9/16/16	10/7/16



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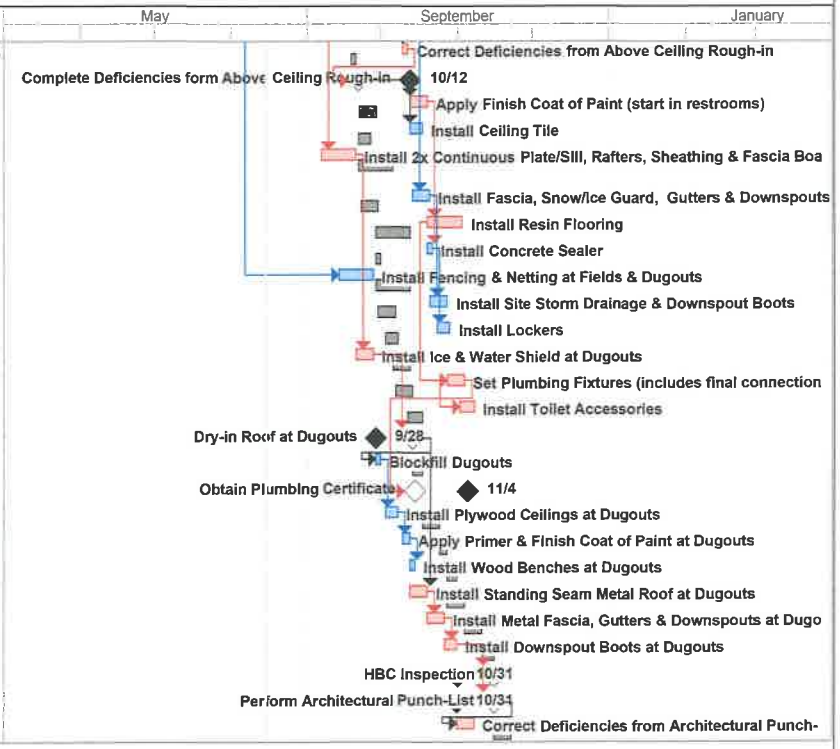
Floyd Central High School Athletic Complex
Eastern, Kentucky

ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
63	Correct Deficiencies from Above Ceiling Rough-in	2 days	9/19/16	10/10/16	9/20/16	10/11/16
64	**Complete Deficiencies form Above Ceiling Rough-in**	**0 days**	**9/21/16**	10/12/16	**9/21/16**	10/12/16
65	Apply Finish Coat of Paint (start in restrooms)	5 days	9/22/16	10/13/16	9/28/16	10/19/16
66	Install Ceiling Tile	3 days	9/22/16	10/13/16	9/26/16	10/17/16
67	Install 2x Continuous Plate/Sill, Rafters, Sheathing & Fascia Board at Dugouts	10 days	9/22/16	9/7/16	10/5/16	9/20/16
68	Install Fascia, Snow/Ice Guard, Gutters & Downspouts	5 days	9/23/16	10/14/16	9/29/16	10/20/16
69	Install Resin Flooring	10 days	9/29/16	10/20/16	10/12/16	11/2/16
70	Install Concrete Sealer	2 days	9/29/16	10/20/16	9/30/16	10/21/16
71	Install Fencing & Netting at Fields & Dugouts	10 days	9/29/16	9/14/16	10/12/16	9/27/16
72	Install Site Storm Drainage & Downspout Boots	5 days	9/30/16	10/21/16	10/6/16	10/27/16
73	Install Lockers	5 days	10/3/16	10/24/16	10/7/16	10/28/16
74	Install Ice & Water Shield at Dugouts	5 days	10/6/16	9/21/16	10/12/16	9/27/16
75	Set Plumbing Fixtures (includes final connections)	5 days	10/7/16	10/28/16	10/13/16	11/3/16
76	Install Toilet Accessories	4 days	10/12/16	11/2/16	10/17/16	11/7/16
77	**Dry-in Roof at Dugouts**	**0 days**	**10/13/16**	9/28/16	**10/13/16**	9/28/16
78	Blockfill Dugouts	2 days	10/14/16	9/29/16	10/17/16	9/30/16
79	**Obtain Plumbing Certificate**	**0 days**	**10/14/16**	11/4/16	**10/14/16**	11/4/16
80	Install Plywood Ceilings at Dugouts	5 days	10/18/16	10/3/16	10/24/16	10/7/16
81	Apply Primer & Finish Coat of Paint at Dugouts	3 days	10/25/16	10/10/16	10/27/16	10/12/16
82	Install Wood Benches at Dugouts	2 days	10/28/16	10/13/16	10/31/16	10/14/16
83	Install Standing Seam Metal Roof at Dugouts	5 days	10/28/16	10/13/16	11/3/16	10/19/16
84	Install Metal Fascia, Gutters & Downspouts at Dugouts	5 days	11/4/16	10/20/16	11/10/16	10/26/16
85	Install Downspout Boots at Dugouts	3 days	11/11/16	10/27/16	11/15/16	10/31/16
86	**HBC Inspection**	**0 days**	**11/15/16**	10/31/16	**11/15/16**	10/31/16
87	**Perform Architectural Punch-List**	**0 days**	**11/15/16**	10/31/16	**11/15/16**	10/31/16
88	Correct Deficiencies from Architectural Punch-List	5 days	11/16/16	11/1/16	11/22/16	11/7/16



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Floyd Central High School
Eastern, Kentucky

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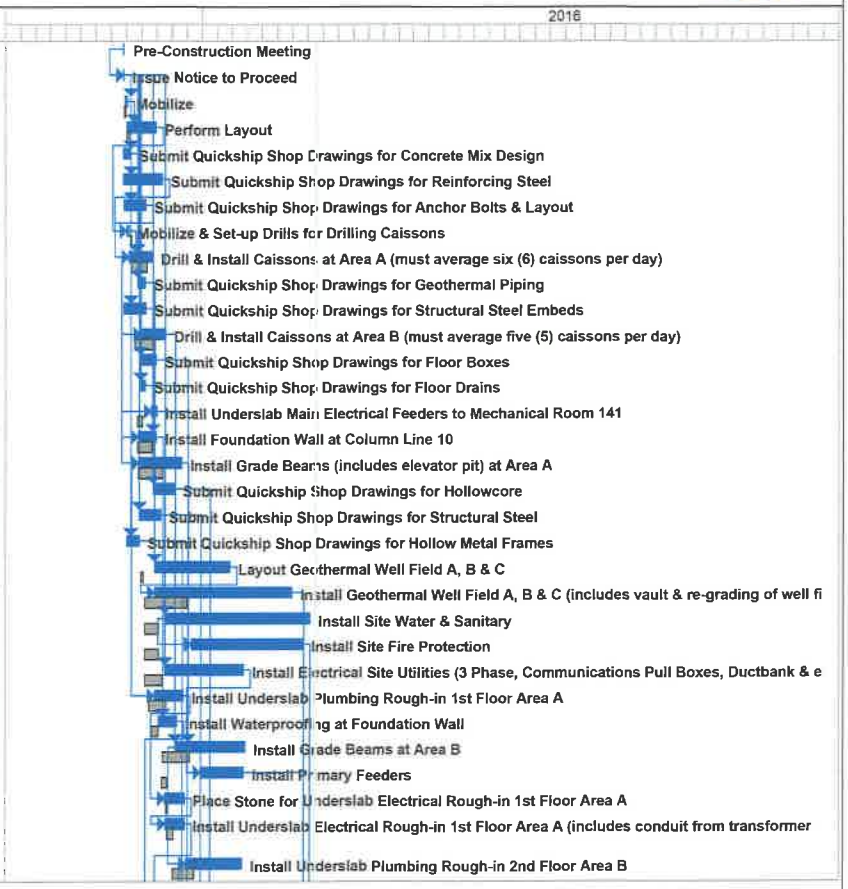
1	**Pre-Construction Meeting**	**0 days**	**7/27/15**	7/27/15	**7/27/15**	7/27/15
2	**Issue Notice to Proceed**	**0 days**	**7/27/15**	7/27/15	**7/27/15**	7/27/15
3	Mobilize	3 days	7/29/15	7/30/15	7/31/15	8/3/15
4	Perform Layout	5 days	8/3/15	8/3/15	8/7/15	9/30/15
5	**Submit Quickship Shop Drawings for Concrete Mix Design**	**0 days**	8/7/15	7/27/15	8/7/15	8/10/15
6	**Submit Quickship Shop Drawings for Reinforcing Steel**	**0 days**	8/7/15	7/27/15	8/7/15	10/12/15
7	**Submit Quickship Shop Drawings for Anchor Bolts & Layout**	**0 days**	8/7/15	7/28/15	8/7/15	9/9/15
8	Mobilize & Set-up Drills for Drilling Caissons	2 days	8/10/15	8/3/15	8/11/15	8/6/15
9	Drill & Install Caissons at Area A (must average six (6) caissons per day)	22 days	8/12/15	8/7/15	9/11/15	9/22/15
10	**Submit Quickship Shop Drawings for Geothermal Piping**	0 days	8/14/15	8/25/15	8/14/15	9/8/15
11	**Submit Quickship Shop Drawings for Structural Steel Embeds**	**0 days**	8/14/15	7/28/15	8/14/15	9/9/15
12	Drill & Install Caissons at Area B (must average five (5) caissons per day)	28 days	8/19/15	8/31/15	9/28/15	10/19/15
13	**Submit Quickship Shop Drawings for Floor Boxes**	**0 days**	8/21/15	8/31/15	8/21/15	9/30/15
14	**Submit Quickship Shop Drawings for Floor Drains**	**0 days**	8/21/15	8/31/15	8/21/15	9/8/15
15	Install Underslab Main Electrical Feeders to Mechanical Room 141	8 days	8/24/15	9/21/15	9/2/15	10/1/15
16	Install Foundation Wall at Column Line 10	20 days	8/24/15	8/26/15	9/21/15	9/30/15
17	Install Grade Beams (includes elevator pit) at Area A	34 days	8/26/15	8/27/15	10/13/15	11/20/15
18	**Submit Quickship Shop Drawings for Hollowcore**	**0 days**	8/28/15	9/25/15	8/28/15	11/6/15
19	**Submit Quickship Shop Drawings for Structural Steel**	**0 days**	8/28/15	8/28/15	8/28/15	10/9/15
20	**Submit Quickship Shop Drawings for Hollow Metal Frames**	**0 days**	8/28/15	8/3/15	8/28/15	8/27/15
21	Layout Geothermal Well Field A, B & C	5 days	8/31/15	9/28/15	9/4/15	2/26/16
22	Install Geothermal Well Field A, B & C (includes vault & re-grading of well	60 days	9/8/15	9/28/15	12/1/15	6/30/16
23	Install Site Water & Sanitary	20 days	9/8/15	10/19/15	10/5/15	8/5/16
24	Install Site Fire Protection	20 days	9/8/15	12/11/15	10/5/15	7/22/16
25	Install Electrical Site Utilities (3 Phase, Communications Pull Boxes, Duct	25 days	9/8/15	10/19/15	10/12/15	3/25/16
26	Install Underslab Plumbing Rough-in 1st Floor Area A	24 days	9/17/15	9/28/15	10/20/15	11/24/15
27	Install Waterproofing at Foundation Wall	10 days	9/22/15	10/6/15	10/5/15	11/11/15
28	Install Grade Beams at Area B	38 days	10/14/15	11/9/15	12/7/15	3/28/16
29	Install Primary Feeders	8 days	10/13/15	12/30/15	10/22/15	3/25/16
30	Place Stone for Underslab Electrical Rough-in 1st Floor Area A	2 days	10/21/15	10/19/15	10/22/15	11/27/15
31	Install Underslab Electrical Rough-in 1st Floor Area A (includes conduit from transformer & generator to Mechanical Room 141)	10 days	10/23/15	10/20/15	11/5/15	11/27/15
32	Install Underslab Plumbing Rough-in 2nd Floor Area B	30 days	11/4/15	12/1/15	12/16/15	3/22/16



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Eastern, Kentucky

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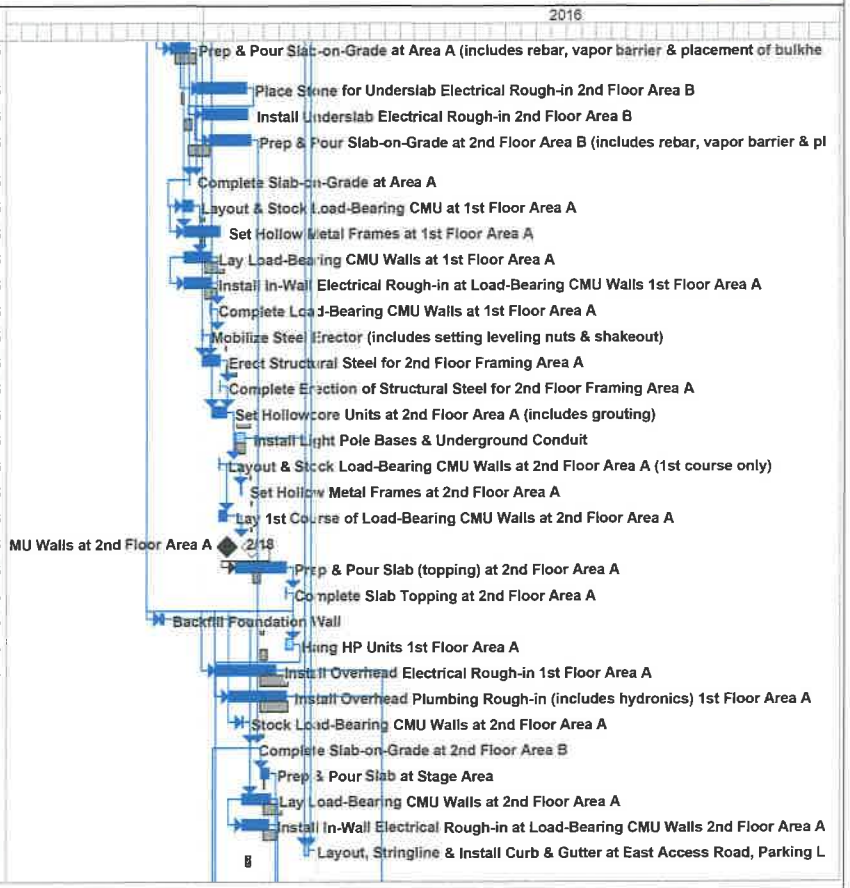
33	Prep & Pour Slab-on-Grade at Area A (includes rebar, vapor barrier & placement of bulkheads)	28 days	11/6/15	10/27/15	12/16/15	12/4/15
34	Place Stone for Underslab Electrical Rough-in 2nd Floor Area B	4 days	11/18/15	12/23/15	11/23/15	3/28/16
35	Install Underslab Electrical Rough-in 2nd Floor Area B	10 days	11/24/15	12/30/15	12/8/15	3/31/16
36	Prep & Pour Slab-on-Grade at 2nd Floor Area B (includes rebar, vapor barrier & placement of bulkheads)	30 days	12/2/15	1/14/16	1/14/16	4/6/16
37	**Complete Slab-on-Grade at Area A**	**0 days**	12/17/15	12/4/15	12/17/15	12/4/15
38	Layout & Stock Load-Bearing CMU at 1st Floor Area A	5 days	12/28/15	11/20/15	1/4/16	12/11/15
39	Set Hollow Metal Frames at 1st Floor Area A	5 days	12/28/15	11/23/15	1/4/16	2/4/16
40	Lay Load-Bearing CMU Walls at 1st Floor Area A	29 days	1/5/16	11/23/15	2/12/16	1/15/16
41	Install In-Wall Electrical Rough-in at Load-Bearing CMU Walls 1st Floor A	18 days	1/5/16	11/24/15	1/28/16	1/15/16
42	**Complete Load-Bearing CMU Walls at 1st Floor Area A**	**0 days**	2/12/16	1/15/16	2/12/16	1/15/16
43	Mobilize Steel Erector (includes setting leveling nuts & shakeout)	2 days	2/15/16	12/30/15	2/16/16	12/31/15
44	Erect Structural Steel for 2nd Floor Framing Area A	15 days	2/17/16	12/31/15	3/8/16	2/4/16
45	**Complete Erection of Structural Steel for 2nd Floor Framing Area A**	**0 days**	3/8/16	2/4/16	3/8/16	2/4/16
46	Set Hollowcore Units at 2nd Floor Area A (includes grouting)	19 days	3/9/16	1/19/16	4/4/16	2/17/16
47	Install Light Pole Bases & Underground Conduit	15 days	3/7/16	3/7/16	3/25/16	3/25/16
48	Layout & Stock Load-Bearing CMU Walls at 2nd Floor Area A (1st course	2 days	4/5/16	2/2/16	4/6/16	2/3/16
49	Set Hollow Metal Frames at 2nd Floor Area A	2 days	4/7/16	3/17/16	4/8/16	3/18/16
50	Lay 1st Course of Load-Bearing CMU Walls at 2nd Floor Area A	2 days	4/7/16	2/3/16	4/8/16	2/18/16
51	**Complete 1st Course of Load-Bearing CMU Walls at 2nd Floor Area**	**0 days**	4/8/16	2/18/16	4/8/16	2/18/16
52	Prep & Pour Slab (topping) at 2nd Floor Area A	11 days	4/11/16	3/7/16	4/25/16	6/16/16
53	**Complete Slab Topping at 2nd Floor Area A**	**0 days**	4/25/16	6/16/16	4/25/16	6/16/16
54	Backfill Foundation Wall	5 days	4/26/16	10/8/15	5/2/16	10/14/15
55	Hang HP Units 1st Floor Area A	10 days	4/26/16	6/17/16	5/9/16	6/30/16
56	Install Overhead Electrical Rough-in 1st Floor Area A	40 days	4/26/16	1/27/16	6/20/16	5/27/16
57	Install Overhead Plumbing Rough-in (includes hydronics) 1st Floor Area A	40 days	4/26/16	2/23/16	6/20/16	6/17/16
58	Stock Load-Bearing CMU Walls at 2nd Floor Area A	5 days	4/26/16	3/21/16	5/2/16	3/22/16
59	**Complete Slab-on-Grade at 2nd Floor Area B**	**0 days**	5/2/16	4/6/16	5/2/16	4/6/16
60	Prep & Pour Slab at Stage Area	2 days	5/3/16	4/28/16	5/4/16	5/13/16
61	Lay Load-Bearing CMU Walls at 2nd Floor Area A	28 days	5/3/16	3/21/16	6/9/16	5/17/16
62	Install In-Wall Electrical Rough-in at Load-Bearing CMU Walls 2nd Floor A	20 days	5/3/16	3/21/16	5/30/16	5/13/16
63	Layout, Stringline & Install Curb & Gutter at East Access Road, Parking Lot at Geothermal Well Field A & Athletic Complex Access Road /	7 days	3/28/16	7/25/16	4/5/16	8/2/16



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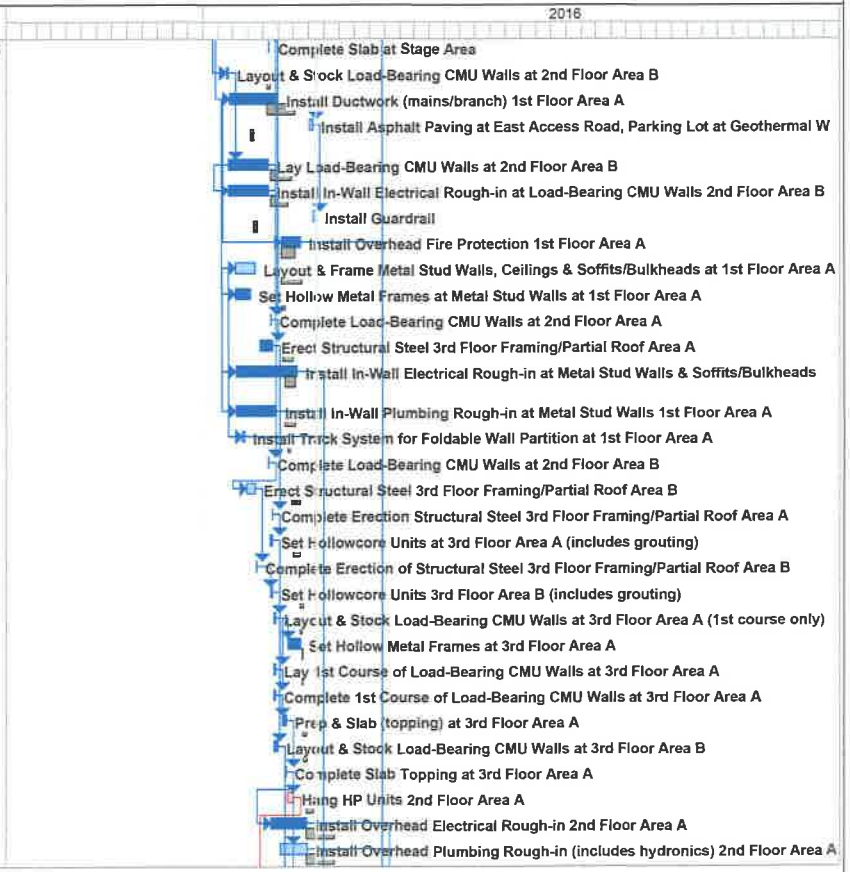
64	**Complete Slab at Stage Area**	**0 days**	5/4/16	5/13/16	5/4/16	5/13/16
65	Layout & Stock Load-Bearing CMU Walls at 2nd Floor Area B	5 days	5/10/16	2/19/16	5/16/16	2/22/16
66	Install Ductwork (mains/branch) 1st Floor Area A	40 days	5/10/16	2/25/16	7/4/16	5/31/16
67	Install Asphalt Paving at East Access Road, Parking Lot at Geothermal Well Field A & Athletic Complex Access Road (excludes surface)	5 days	4/6/16	8/3/16	4/12/16	8/9/16
68	Lay Load-Bearing CMU Walls at 2nd Floor Area B	30 days	5/17/16	2/22/16	6/27/16	5/12/16
69	Install In-Wall Electrical Rough-in at Load-Bearing CMU Walls 2nd Floor /	25 days	5/17/16	2/22/16	6/20/16	5/12/16
70	Install Guardrail	5 days	4/13/16	8/10/16	4/19/16	8/16/16
71	Install Overhead Fire Protection 1st Floor Area A	20 days	6/7/16	6/8/16	7/4/16	7/15/16
72	Layout & Frame Metal Stud Walls, Ceilings & Soffits/Bulkheads at 1st Flo	30 days	6/7/16	3/7/16	7/18/16	4/15/16
73	Set Hollow Metal Frames at Metal Stud Walls at 1st Floor Area A	5 days	6/8/16	3/7/16	6/14/16	4/5/16
74	**Complete Load-Bearing CMU Walls at 2nd Floor Area A**	**0 days**	6/9/16	5/17/16	6/9/16	5/17/16
75	Erect Structural Steel 3rd Floor Framing/Partial Roof Area A	15 days	6/10/16	4/25/16	6/30/16	5/20/16
76	Install In-Wall Electrical Rough-in at Metal Stud Walls & Soffits/Bulkheads at 1st Floor Area A	15 days	6/14/16	3/8/16	7/4/16	7/8/16
77	Install In-Wall Plumbing Rough-in at Metal Stud Walls 1st Floor Area A	15 days	6/14/16	3/8/16	7/4/16	5/27/16
78	Install Track System for Foldable Wall Partition at 1st Floor Area A	4 days	6/21/16	3/21/16	6/24/16	3/24/16
79	**Complete Load-Bearing CMU Walls at 2nd Floor Area B**	**0 days**	6/27/16	5/12/16	6/27/16	5/12/16
80	Erect Structural Steel 3rd Floor Framing/Partial Roof Area B	13 days	6/28/16	3/30/16	7/14/16	4/15/16
81	**Complete Erection Structural Steel 3rd Floor Framing/Partial Roof A**	**0 days**	6/30/16	5/20/16	6/30/16	5/20/16
82	Set Hollowcore Units at 3rd Floor Area A (includes grouting)	10 days	7/1/16	5/16/16	7/14/16	5/20/16
83	**Complete Erection of Structural Steel 3rd Floor Framing/Partial Roof**	**0 days**	7/14/16	4/18/16	7/14/16	4/18/16
84	Set Hollowcore Units 3rd Floor Area B (includes grouting)	5 days	7/15/16	5/17/16	7/21/16	5/20/16
85	Layout & Stock Load-Bearing CMU Walls at 3rd Floor Area A (1st course	2 days	7/15/16	5/23/16	7/18/16	5/26/16
86	Set Hollow Metal Frames at 3rd Floor Area A	2 days	7/19/16	6/21/16	7/20/16	7/15/16
87	Lay 1st Course of Load-Bearing CMU Walls at 3rd Floor Area A	2 days	7/19/16	5/23/16	7/20/16	5/26/16
88	**Complete 1st Course of Load-Bearing CMU Walls at 3rd Floor Area A**	**0 days**	7/20/16	5/23/16	7/20/16	5/26/16
89	Prep & Slab (topping) at 3rd Floor Area A	5 days	7/21/16	6/10/16	7/27/16	6/17/16
90	Layout & Stock Load-Bearing CMU Walls at 3rd Floor Area B	5 days	7/22/16	5/24/16	7/28/16	5/31/16
91	**Complete Slab Topping at 3rd Floor Area A**	**0 days**	7/27/16	6/17/16	7/27/16	6/17/16
92	Hang HP Units 2nd Floor Area A	10 days	7/28/16	6/20/16	8/10/16	7/1/16
93	Install Overhead Electrical Rough-in 2nd Floor Area A	40 days	7/28/16	5/18/16	9/21/16	7/28/16
94	Install Overhead Plumbing Rough-in (includes hydronics) 2nd Floor Area	40 days	7/28/16	6/6/16	9/21/16	7/29/16



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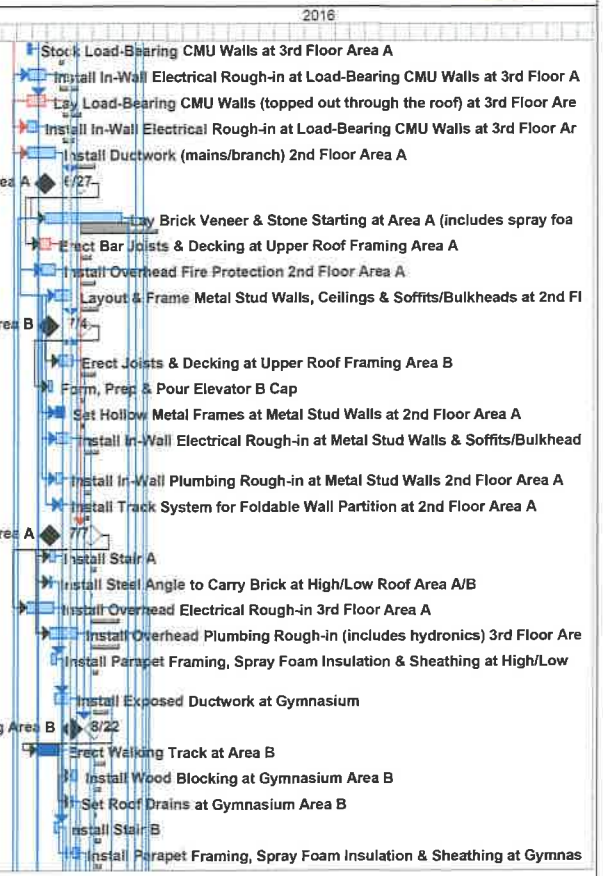
Eastern, Kentucky

ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
95	Stock Load-Bearing CMU Walls at 3rd Floor Area A	5 days	7/28/16	5/24/16	8/3/16	5/31/16
96	Install In-Wall Electrical Rough-in at Load-Bearing CMU Walls at 3rd Floo	25 days	7/29/16	5/25/16	9/1/16	6/28/16
97	Lay Load-Bearing CMU Walls (topped out through the roof) at 3rd Floor A	25 days	8/4/16	5/24/16	9/7/16	6/27/16
98	Install In-Wall Electrical Rough-in at Load-Bearing CMU Walls at 3rd Floo	15 days	8/4/16	5/23/16	8/24/16	6/10/16
99	Install Ductwork (mains/branch) 2nd Floor Area A	40 days	8/11/16	5/24/16	10/5/16	7/18/16
100	**Complete Load-Bearing CMU Walls (topped out through the roof) at 3rd Floor Area A**	**0 days**	9/7/16	6/27/16	9/7/16	6/27/16
101	Lay Brick Veneer & Stone Starting at Area A (includes spray foam insulat	110 days	9/8/16	6/28/16	2/8/17	11/28/16
102	Erect Bar Joists & Decking at Upper Roof Framing Area A	15 days	9/8/16	6/17/16	9/28/16	7/7/16
103	Install Overhead Fire Protection 2nd Floor Area A	20 days	9/8/16	6/21/16	10/5/16	7/18/16
104	Layout & Frame Metal Stud Walls, Ceilings & Soffits/Bulkheads at 2nd Fl	25 days	9/8/16	7/18/16	10/12/16	8/19/16
105	**Complete Load-Bearing CMU Walls (topped out through the roof) at 3rd Floor Area B**	**0 days**	9/8/16	7/4/16	9/8/16	7/4/16
106	Erect Joists & Decking at Upper Roof Framing Area B	20 days	9/9/16	7/26/16	10/6/16	8/22/16
107	Form, Prep & Pour Elevator B Cap	5 days	9/9/16	7/5/16	9/15/16	7/11/16
108	Set Hollow Metal Frames at Metal Stud Walls at 2nd Floor Area A	2 days	9/9/16	7/19/16	9/12/16	8/5/16
109	Install In-Wall Electrical Rough-in at Metal Stud Walls & Soffits/Bulkheads at 2nd Floor Area A	20 days	9/15/16	7/20/16	10/12/16	8/16/16
110	Install In-Wall Plumbing Rough-in at Metal Stud Walls 2nd Floor Area A	10 days	9/15/16	7/20/16	9/28/16	8/2/16
111	Install Track System for Foldable Wall Partition at 2nd Floor Area A	4 days	9/20/16	7/28/16	9/23/16	8/2/16
112	**Complete Erection of Bar Joists & Decking at Upper Roof Framing A**	**0 days**	9/28/16	7/7/16	9/28/16	7/7/16
113	Install Stair A	7 days	9/29/16	7/8/16	10/7/16	7/18/16
114	Install Steel Angle to Carry Brick at High/Low Roof Area A/B	2 days	9/29/16	7/8/16	9/30/16	7/11/16
115	Install Overhead Electrical Rough-in 3rd Floor Area A	40 days	9/29/16	5/23/16	11/23/16	7/15/16
116	Install Overhead Plumbing Rough-in (includes hydronics) 3rd Floor Area /	40 days	9/29/16	7/8/16	11/23/16	9/1/16
117	Install Parapet Framing, Spray Foam Insulation & Sheathing at High/Low Roof Area A/B	8 days	10/3/16	7/12/16	10/12/16	7/21/16
118	Install Exposed Ductwork at Gymnasium	20 days	10/6/16	7/19/16	11/2/16	8/15/16
119	**Complete Erection of Joists & Decking at Upper Roof Framing Area**	**0 days**	10/6/16	8/22/16	10/6/16	8/22/16
120	Erect Walking Track at Area B	15 days	10/7/16	6/13/16	10/27/16	7/27/16
121	Install Wood Blocking at Gymnasium Area B	8 days	10/7/16	8/23/16	10/18/16	9/1/16
122	Set Roof Drains at Gymnasium Area B	2 days	10/7/16	8/23/16	10/10/16	8/24/16
123	Install Stair B	7 days	10/10/16	7/19/16	10/18/16	7/27/16
124	Install Parapet Framing, Spray Foam Insulation & Sheathing at Gymnasi	8 days	10/11/16	8/25/16	10/20/16	9/5/16



Floyd Central High School
Issued at the 8-4-16 MMM

Critical Milestone

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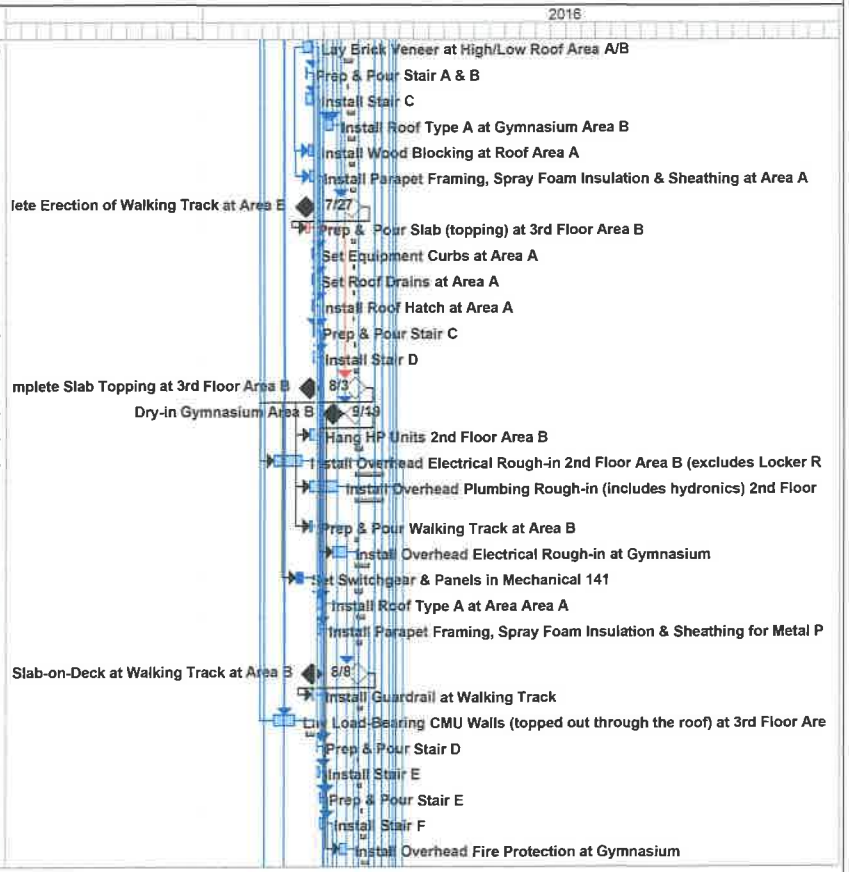
Floyd Central High School
Eastern, Kentucky

ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
125	Lay Brick Veneer at High/Low Roof Area A/B	12 days	10/13/16	7/22/16	10/28/16	8/8/16
126	Prep & Pour Stair A & B	2 days	10/19/16	7/28/16	10/20/16	7/29/16
127	Install Stair C	10 days	10/19/16	7/28/16	11/1/16	8/10/16
128	Install Roof Type A at Gymnasium Area B	10 days	10/21/16	9/6/16	11/3/16	9/19/16
129	Install Wood Blocking at Roof Area A	7 days	10/24/16	8/2/16	11/1/16	8/10/16
130	Install Parapet Framing, Spray Foam Insulation & Sheathing at Area A	8 days	10/26/16	8/4/16	11/4/16	8/15/16
131	**Complete Erection of Walking Track at Area B**	0 days	10/27/16	7/27/16	10/27/16	7/27/16
132	Prep & Pour Slab (topping) at 3rd Floor Area B	5 days	10/28/16	7/28/16	11/3/16	8/3/16
133	Set Equipment Curbs at Area A	2 days	10/31/16	8/9/16	11/1/16	8/10/16
134	Set Roof Drains at Area A	2 days	10/31/16	8/9/16	11/1/16	8/10/16
135	Install Roof Hatch at Area A	1 day	10/31/16	8/9/16	10/31/16	8/9/16
136	Prep & Pour Stair C	2 days	11/2/16	8/11/16	11/3/16	8/12/16
137	Install Stair D	5 days	11/2/16	8/11/16	11/8/16	8/17/16
138	**Complete Slab Topping at 3rd Floor Area B**	0 days	11/3/16	8/3/16	11/3/16	8/3/16
139	**Dry-in Gymnasium Area B**	0 days	11/3/16	9/19/16	11/3/16	9/19/16
140	Hang HP Units 2nd Floor Area B	10 days	11/4/16	8/4/16	11/17/16	8/17/16
141	Install Overhead Electrical Rough-in 2nd Floor Area B (excludes Locker F	40 days	11/4/16	5/24/16	12/29/16	7/18/16
142	Install Overhead Plumbing Rough-in (includes hydronics) 2nd Floor Area B (excludes Locker Rooms)	40 days	11/4/16	8/4/16	12/29/16	9/28/16
143	Prep & Pour Walking Track at Area B	3 days	11/4/16	8/4/16	11/8/16	8/8/16
144	Install Overhead Electrical Rough-in at Gymnasium	20 days	11/4/16	9/20/16	12/1/16	10/17/16
145	Set Switchgear & Panels in Mechanical 141	10 days	11/4/16	7/8/16	11/17/16	7/21/16
146	Install Roof Type A at Area Area A	12 days	11/7/16	8/16/16	11/22/16	8/31/16
147	Install Parapet Framing, Spray Foam Insulation & Sheathing for Metal Panel Wall System	8 days	11/7/16	8/16/16	11/16/16	8/25/16
148	**Complete Slab-on-Deck at Walking Track at Area B**	0 days	11/8/16	8/8/16	11/8/16	8/8/16
149	Install Guardrail at Walking Track	8 days	11/9/16	8/9/16	11/18/16	8/18/16
150	Lay Load-Bearing CMU Walls (topped out through the roof) at 3rd Floor A	30 days	7/29/16	5/24/16	9/8/16	7/4/16
151	Prep & Pour Stair D	2 days	11/9/16	8/18/16	11/10/16	8/19/16
152	Install Stair E	5 days	11/9/16	8/18/16	11/15/16	8/24/16
153	Prep & Pour Stair E	2 days	11/16/16	8/25/16	11/17/16	8/26/16
154	Install Stair F	8 days	11/16/16	8/25/16	11/25/16	9/5/16
155	Install Overhead Fire Protection at Gymnasium	10 days	11/18/16	10/4/16	12/1/16	10/17/16



Floyd Central High School
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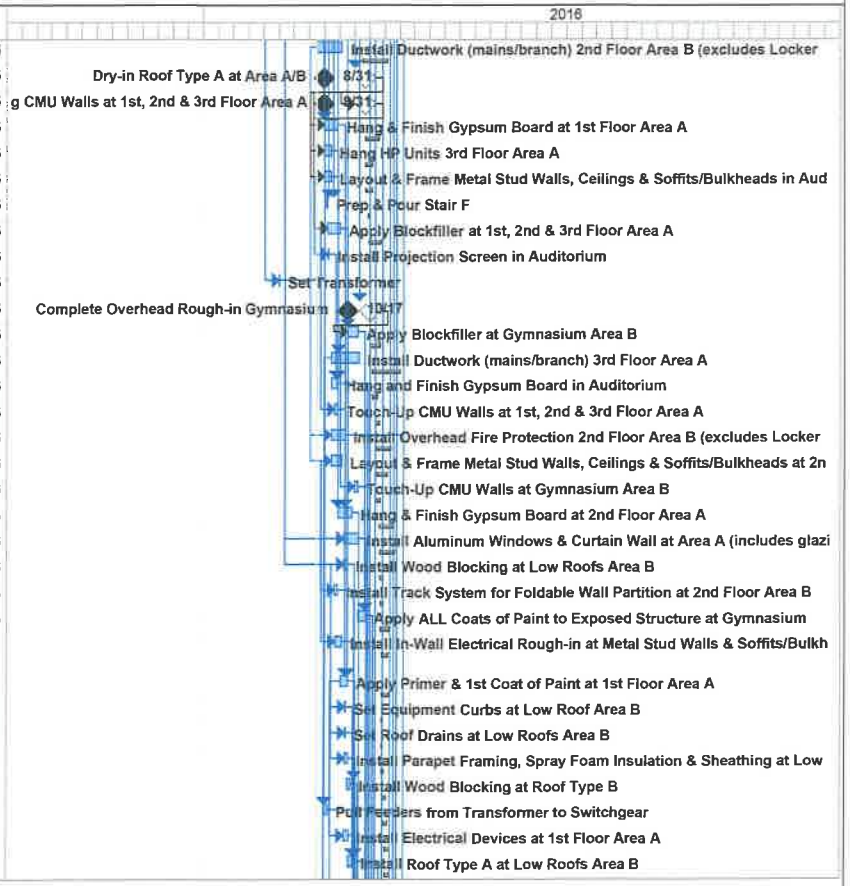
Floyd Central High School
Eastern, Kentucky

ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
156	Install Ductwork (mains/branch) 2nd Floor Area B (excludes Locker Roon	35 days	11/18/16	8/18/16	1/5/17	10/5/16
157	**Dry-in Roof Type A at Area A/B**	**0 days**	11/22/16	8/31/16	11/22/16	8/31/16
158	**Complete Non-Load-Bearing CMU Walls at 1st, 2nd & 3rd Floor Area**	**0 days**	11/22/16	8/31/16	11/22/16	8/31/16
159	Hang & Finish Gypsum Board at 1st Floor Area A	20 days	11/23/16	9/1/16	12/20/16	9/28/16
160	Hang HP Units 3rd Floor Area A	10 days	11/23/16	9/1/16	12/6/16	9/14/16
161	Layout & Frame Metal Stud Walls, Ceilings & Soffits/Bulkheads in Auditor	10 days	11/23/16	9/1/16	12/6/16	9/14/16
162	Prep & Pour Stair F	2 days	11/28/16	9/6/16	11/29/16	9/7/16
163	Apply Blockfiller at 1st, 2nd & 3rd Floor Area A	18 days	11/30/16	9/8/16	12/23/16	10/3/16
164	Install Projection Screen in Auditorium	1 day	12/1/16	9/9/16	12/1/16	9/9/16
165	Set Transformer	1 day	12/1/16	6/2/16	12/1/16	6/2/16
166	**Complete Overhead Rough-in Gymnasium**	**0 days**	12/1/16	10/17/16	12/1/16	10/17/16
167	Apply Blockfiller at Gymnasium Area B	15 days	12/2/16	10/18/16	12/22/16	11/7/16
168	Install Ductwork (mains/branch) 3rd Floor Area A	40 days	12/7/16	9/15/16	1/31/17	11/9/16
169	Hang and Finish Gypsum Board in Auditorium	8 days	12/7/16	9/15/16	12/16/16	9/26/16
170	Touch-Up CMU Walls at 1st, 2nd & 3rd Floor Area A	5 days	12/14/16	9/22/16	12/20/16	9/28/16
171	Install Overhead Fire Protection 2nd Floor Area B (excludes Locker Roon	20 days	12/16/16	9/15/16	1/12/17	10/12/16
172	Layout & Frame Metal Stud Walls, Ceilings & Soffits/Bulkheads at 2nd Fl	15 days	12/16/16	9/15/16	1/5/17	10/5/16
173	Touch-Up CMU Walls at Gymnasium Area B	5 days	12/16/16	11/1/16	12/22/16	11/7/16
174	Hang & Finish Gypsum Board at 2nd Floor Area A	20 days	12/21/16	9/29/16	1/17/17	10/26/16
175	Install Aluminum Windows & Curtain Wall at Area A (includes glazing)	22 days	12/22/16	10/11/16	1/20/17	11/9/16
176	Install Wood Blocking at Low Roofs Area B	5 days	12/22/16	10/11/16	12/28/16	10/17/16
177	Install Track System for Foldable Wall Partition at 2nd Floor Area B	4 days	12/23/16	9/22/16	12/28/16	9/27/16
178	Apply ALL Coats of Paint to Exposed Structure at Gymnasium	12 days	12/23/16	11/8/16	1/9/17	11/23/16
179	Install In-Wall Electrical Rough-in at Metal Stud Walls & Soffits/Bulkheads at 2nd Floor Area B	10 days	12/26/16	9/23/16	1/6/17	10/6/16
180	Apply Primer & 1st Coat of Paint at 1st Floor Area A	11 days	12/26/16	10/4/16	1/9/17	10/18/16
181	Set Equipment Curbs at Low Roof Area B	2 days	12/26/16	10/13/16	12/27/16	10/14/16
182	Set Roof Drains at Low Roofs Area B	2 days	12/26/16	10/13/16	12/27/16	10/14/16
183	Install Parapet Framing, Spray Foam Insulation & Sheathing at Low Roof	5 days	12/26/16	10/13/16	12/30/16	10/19/16
184	Install Wood Blocking at Roof Type B	5 days	12/29/16	10/18/16	1/4/17	10/24/16
185	Pull Feeders from Transformer to Switchgear	5 days	12/30/16	9/2/16	1/5/17	9/8/16
186	Install Electrical Devices at 1st Floor Area A	8 days	1/2/17	10/11/16	1/11/17	10/20/16
187	Install Roof Type A at Low Roofs Area B	7 days	1/2/17	10/20/16	1/10/17	10/28/16



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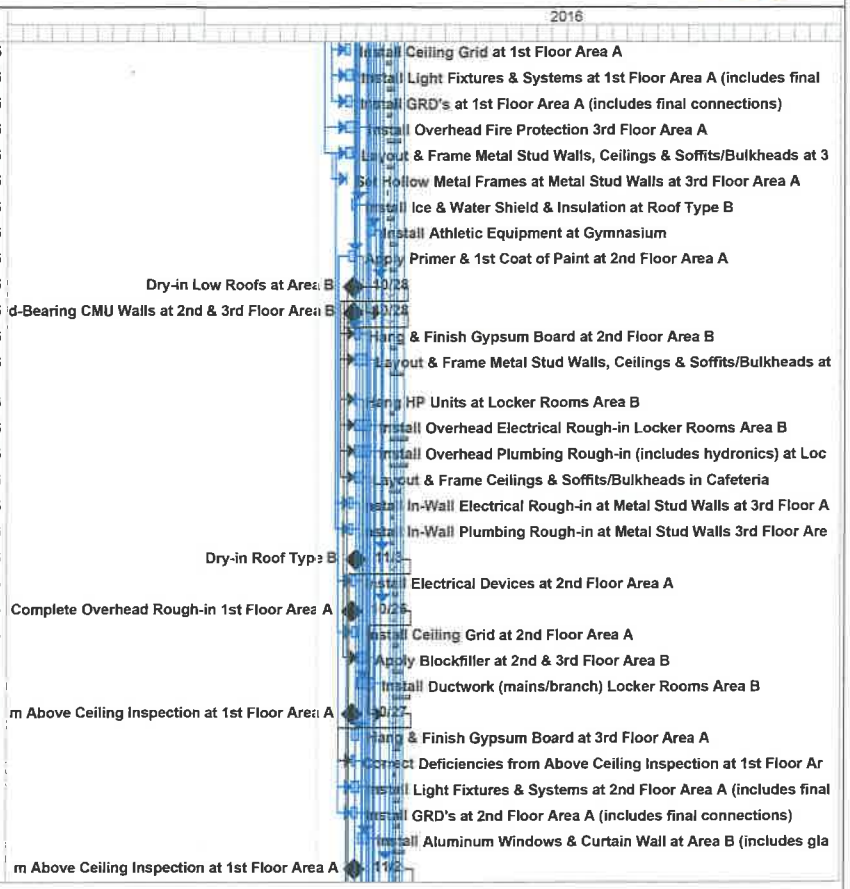
ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
188	Install Ceiling Grid at 1st Floor Area A	8 days	1/3/17	10/12/16	1/12/17	10/21/16
189	Install Light Fixtures & Systems at 1st Floor Area A (includes final connec	10 days	1/4/17	10/13/16	1/17/17	10/26/16
190	Install GRD's at 1st Floor Area A (includes final connections)	8 days	1/4/17	10/13/16	1/13/17	10/24/16
191	Install Overhead Fire Protection 3rd Floor Area A	20 days	1/4/17	10/13/16	1/31/17	11/9/16
192	Layout & Frame Metal Stud Walls, Ceilings & Soffits/Bulkheads at 3rd Flc	10 days	1/4/17	10/13/16	1/17/17	10/26/16
193	Set Hollow Metal Frames at Metal Stud Walls at 3rd Floor Area A	1 day	1/5/17	10/14/16	1/5/17	10/14/16
194	Install Ice & Water Shield & Insulation at Roof Type B	8 days	1/5/17	10/25/16	1/16/17	11/3/16
195	Install Athletic Equipment at Gymnasium	12 days	1/10/17	11/24/16	1/25/17	12/9/16
196	Apply Primer & 1st Coat of Paint at 2nd Floor Area A	11 days	1/10/17	10/19/16	1/24/17	11/2/16
197	**Dry-in Low Roofs at Area B**	**0 days**	1/10/17	10/28/16	1/10/17	10/28/16
198	**Complete Non-Load-Bearing CMU Walls at 2nd & 3rd Floor Area B**	0 days	1/10/17	10/28/16	1/10/17	10/28/16
199	Hang & Finish Gypsum Board at 2nd Floor Area B	10 days	1/11/17	10/31/16	1/24/17	11/11/16
200	Layout & Frame Metal Stud Walls, Ceilings & Soffits/Bulkheads at 3rd Floor Area B	20 days	1/11/17	10/31/16	2/7/17	11/25/16
201	Hang HP Units at Locker Rooms Area B	5 days	1/11/17	10/31/16	1/17/17	11/4/16
202	Install Overhead Electrical Rough-in Locker Rooms Area B	25 days	1/11/17	10/31/16	2/14/17	12/2/16
203	Install Overhead Plumbing Rough-in (includes hydronics) at Locker Roorr	25 days	1/11/17	10/31/16	2/14/17	12/2/16
204	Layout & Frame Ceilings & Soffits/Bulkheads in Cafeteria	15 days	1/11/17	10/31/16	1/31/17	11/18/16
205	Install In-Wall Electrical Rough-in at Metal Stud Walls at 3rd Floor Area A	5 days	1/12/17	10/21/16	1/18/17	10/27/16
206	Install In-Wall Plumbing Rough-in at Metal Stud Walls 3rd Floor Area A	5 days	1/12/17	10/21/16	1/18/17	10/27/16
207	**Dry-in Roof Type B**	**0 days**	1/16/17	11/3/16	1/16/17	11/3/16
208	Install Electrical Devices at 2nd Floor Area A	8 days	1/17/17	10/26/16	1/26/17	11/4/16
209	**Complete Overhead Rough-in 1st Floor Area A**	**0 days**	1/17/17	10/26/16	1/17/17	10/26/16
210	Install Ceiling Grid at 2nd Floor Area A	8 days	1/18/17	10/27/16	1/27/17	11/7/16
211	Apply Blockfiller at 2nd & 3rd Floor Area B	15 days	1/18/17	11/7/16	2/7/17	11/25/16
212	Install Ductwork (mains/branch) Locker Rooms Area B	25 days	1/18/17	11/7/16	2/21/17	12/9/16
213	**Perform Above Ceiling Inspection at 1st Floor Area A**	**0 days**	1/18/17	10/27/16	1/18/17	10/27/16
214	Hang & Finish Gypsum Board at 3rd Floor Area A	10 days	1/19/17	10/28/16	2/1/17	11/10/16
215	Correct Deficiencies from Above Ceiling Inspection at 1st Floor Area A	3 days	1/19/17	10/28/16	1/23/17	11/1/16
216	Install Light Fixtures & Systems at 2nd Floor Area A (includes final conne	10 days	1/19/17	10/28/16	2/1/17	11/10/16
217	Install GRD's at 2nd Floor Area A (includes final connections)	8 days	1/19/17	10/28/16	1/30/17	11/8/16
218	Install Aluminum Windows & Curtain Wall at Area B (includes glazing)	15 days	1/23/17	11/10/16	2/10/17	11/30/16
219	**Complete Deficiencies from Above Ceiling Inspection at 1st Floor Ar**	**0 days**	1/24/17	11/2/16	1/24/17	11/2/16



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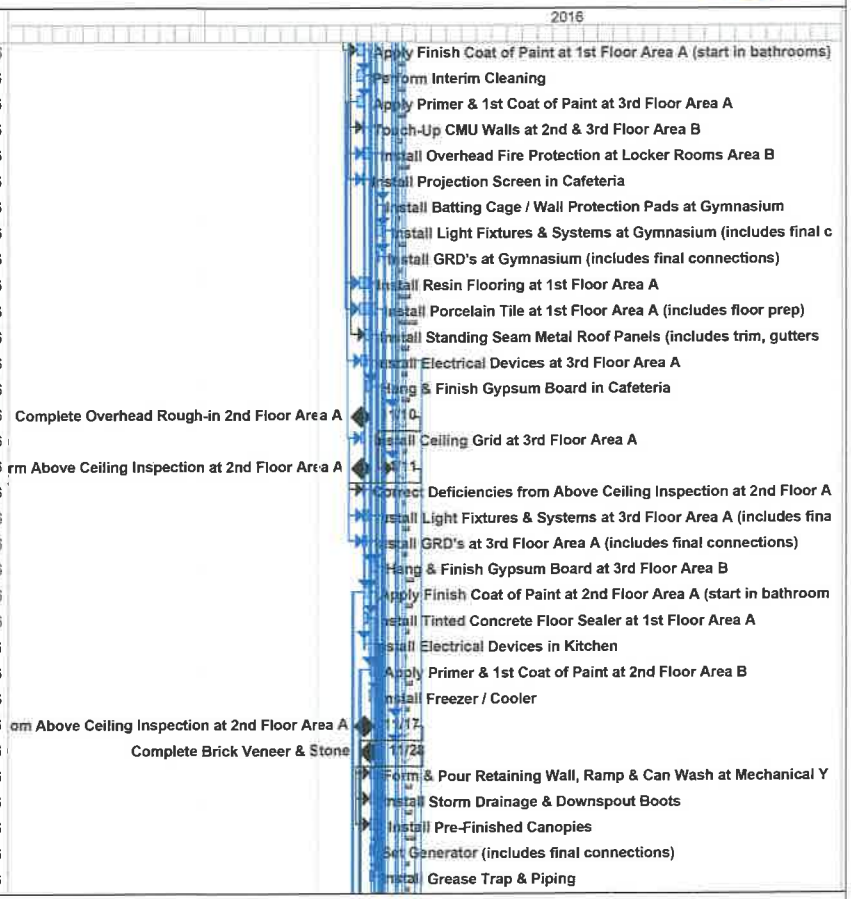
220	Apply Finish Coat of Paint at 1st Floor Area A (start in bathrooms)	10 days	1/25/17	11/3/16	2/7/17	11/16/16
221	Perform Interim Cleaning	10 days	1/25/17	11/3/16	2/7/17	11/16/16
222	Apply Primer & 1st Coat of Paint at 3rd Floor Area A	11 days	1/25/17	11/3/16	2/8/17	11/17/16
223	Touch-Up CMU Walls at 2nd & 3rd Floor Area B	5 days	1/25/17	11/14/16	1/31/17	11/18/16
224	Install Overhead Fire Protection at Locker Rooms Area B	15 days	1/25/17	11/14/16	2/14/17	12/2/16
225	Install Projection Screen in Cafeteria	1 day	1/25/17	11/14/16	1/25/17	11/14/16
226	Install Batting Cage / Wall Protection Pads at Gymnasium	2 days	1/26/17	12/12/16	1/27/17	12/13/16
227	Install Light Fixtures & Systems at Gymnasium (includes final connection:	10 days	1/26/17	12/12/16	2/8/17	12/23/16
228	Install GRD's at Gymnasium (includes final connections)	5 days	1/26/17	12/12/16	2/1/17	12/16/16
229	Install Resin Flooring at 1st Floor Area A	15 days	1/27/17	11/7/16	2/16/17	11/25/16
230	Install Porcelain Tile at 1st Floor Area A (includes floor prep)	25 days	1/27/17	11/7/16	3/2/17	12/9/16
231	Install Standing Seam Metal Roof Panels (includes trim, gutters & downs	10 days	1/31/17	11/18/16	2/13/17	12/1/16
232	Install Electrical Devices at 3rd Floor Area A	8 days	2/1/17	11/10/16	2/10/17	11/21/16
233	Hang & Finish Gypsum Board in Cafeteria	10 days	2/1/17	11/21/16	2/14/17	12/2/16
234	**Complete Overhead Rough-in 2nd Floor Area A**	**0 days**	2/1/17	11/10/16	2/1/17	11/10/16
235	Install Ceiling Grid at 3rd Floor Area A	6 days	2/2/17	11/11/16	2/9/17	11/18/16
236	**Perform Above Ceiling Inspection at 2nd Floor Area A**	**0 days**	2/2/17	11/11/16	2/2/17	11/11/16
237	Correct Deficiencies from Above Ceiling Inspection at 2nd Floor Area A	3 days	2/3/17	11/14/16	2/7/17	11/16/16
238	Install Light Fixtures & Systems at 3rd Floor Area A (includes final connec	8 days	2/3/17	11/14/16	2/14/17	11/23/16
239	Install GRD's at 3rd Floor Area A (includes final connections)	6 days	2/3/17	11/14/16	2/10/17	11/21/16
240	Hang & Finish Gypsum Board at 3rd Floor Area B	12 days	2/8/17	11/28/16	2/23/17	12/13/16
241	Apply Finish Coat of Paint at 2nd Floor Area A (start in bathrooms)	10 days	2/8/17	11/17/16	2/21/17	11/30/16
242	Install Tinted Concrete Floor Sealer at 1st Floor Area A	5 days	2/8/17	11/17/16	2/14/17	11/23/16
243	Install Electrical Devices in Kitchen	2 days	2/8/17	11/17/16	2/9/17	11/18/16
244	Apply Primer & 1st Coat of Paint at 2nd Floor Area B	10 days	2/8/17	11/28/16	2/21/17	12/9/16
245	Install Freezer / Cooler	5 days	2/8/17	11/28/16	2/14/17	12/2/16
246	**Complete Deficiencies from Above Ceiling Inspection at 2nd Floor A**	**0 days**	2/8/17	11/17/16	2/8/17	11/17/16
247	**Complete Brick Veneer & Stone**	**0 days**	2/8/17	11/28/16	2/8/17	11/28/16
248	Form & Pour Retaining Wall, Ramp & Can Wash at Mechanical Yard	8 days	2/9/17	11/29/16	2/20/17	12/8/16
249	Install Storm Drainage & Downspout Boots	8 days	2/9/17	11/29/16	2/20/17	12/8/16
250	Install Pre-Finished Canopies	15 days	2/9/17	11/29/16	3/1/17	12/19/16
251	Set Generator (includes final connections)	5 days	2/9/17	11/29/16	2/15/17	12/5/16
252	Install Grease Trap & Piping	5 days	2/9/17	11/29/16	2/15/17	12/5/16



Floyd Central High School
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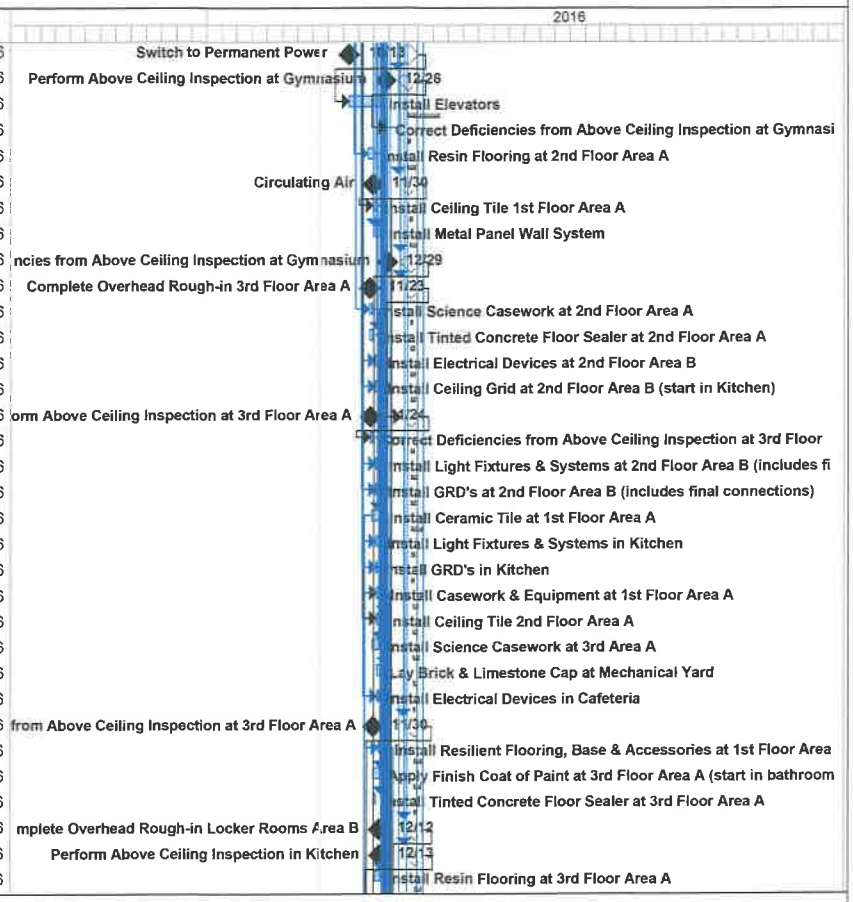
Floyd Central High School
Eastern, Kentucky

ID	Task Name	Baseline Duration	Baseline Start	Start	Baseline Finish	Finish
253	**Switch to Permanent Power**	0 days	2/9/17	10/13/16	2/9/17	10/13/16
254	**Perform Above Ceiling Inspection at Gymnasium**	**0 days**	2/9/17	12/26/16	2/9/17	12/26/16
255	Install Elevators	45 days	2/10/17	10/14/16	4/13/17	12/15/16
256	Correct Deficiencies from Above Ceiling Inspection at Gymnasium	2 days	2/10/17	12/27/16	2/13/17	12/28/16
257	Install Resin Flooring at 2nd Floor Area A	10 days	2/10/17	11/21/16	2/23/17	12/2/16
258	**Circulating Air**	0 days	2/10/17	11/30/16	2/10/17	11/30/16
259	Install Ceiling Tile 1st Floor Area A	5 days	2/13/17	12/1/16	2/17/17	12/7/16
260	Install Metal Panel Wall System	10 days	2/14/17	12/2/16	2/27/17	12/15/16
261	**Complete Deficiencies from Above Ceiling Inspection at Gymnasium**	**0 days**	2/14/17	12/29/16	2/14/17	12/29/16
262	**Complete Overhead Rough-in 3rd Floor Area A**	**0 days**	2/14/17	11/23/16	2/14/17	11/23/16
263	Install Science Casework at 2nd Floor Area A	3 days	2/15/17	11/24/16	2/17/17	11/28/16
264	Install Tinted Concrete Floor Sealer at 2nd Floor Area A	5 days	2/15/17	11/24/16	2/21/17	11/30/16
265	Install Electrical Devices at 2nd Floor Area B	6 days	2/15/17	12/5/16	2/22/17	12/12/16
266	Install Ceiling Grid at 2nd Floor Area B (start in Kitchen)	6 days	2/15/17	12/5/16	2/22/17	12/12/16
267	**Perform Above Ceiling Inspection at 3rd Floor Area A**	**0 days**	2/15/17	11/24/16	2/15/17	11/24/16
268	Correct Deficiencies from Above Ceiling Inspection at 3rd Floor Area A	3 days	2/16/17	11/25/16	2/20/17	11/29/16
269	Install Light Fixtures & Systems at 2nd Floor Area B (includes final conne	8 days	2/16/17	12/6/16	2/27/17	12/15/16
270	Install GRD's at 2nd Floor Area B (includes final connections)	6 days	2/16/17	12/6/16	2/23/17	12/13/16
271	Install Ceramic Tile at 1st Floor Area A	15 days	2/17/17	11/28/16	3/9/17	12/16/16
272	Install Light Fixtures & Systems in Kitchen	4 days	2/17/17	12/7/16	2/22/17	12/12/16
273	Install GRD's in Kitchen	2 days	2/17/17	12/7/16	2/20/17	12/8/16
274	Install Casework & Equipment at 1st Floor Area A	8 days	2/20/17	12/8/16	3/1/17	12/19/16
275	Install Ceiling Tile 2nd Floor Area A	6 days	2/20/17	12/8/16	2/27/17	12/15/16
276	Install Science Casework at 3rd Area A	10 days	2/20/17	11/29/16	3/3/17	12/12/16
277	Lay Brick & Limestone Cap at Mechanical Yard	6 days	2/21/17	12/9/16	2/28/17	12/16/16
278	Install Electrical Devices in Cafeteria	2 days	2/21/17	12/9/16	2/22/17	12/12/16
279	**Complete Deficiencies from Above Ceiling Inspection at 3rd Floor Ar**	**0 days**	2/21/17	11/30/16	2/21/17	11/30/16
280	Install Resilient Flooring, Base & Accessories at 1st Floor Area A	12 days	2/22/17	12/12/16	3/9/17	12/27/16
281	Apply Finish Coat of Paint at 3rd Floor Area A (start in bathrooms)	10 days	2/22/17	12/1/16	3/7/17	12/14/16
282	Install Tinted Concrete Floor Sealer at 3rd Floor Area A	3 days	2/22/17	12/1/16	2/24/17	12/5/16
283	**Complete Overhead Rough-in Locker Rooms Area B**	**0 days**	2/22/17	12/12/16	2/22/17	12/12/16
284	**Perform Above Ceiling Inspection in Kitchen**	**0 days**	2/23/17	12/13/16	2/23/17	12/13/16
285	Install Resin Flooring at 3rd Floor Area A	8 days	2/24/17	12/5/16	3/7/17	12/14/16



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Floyd Central High School
Eastern, Kentucky

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286	Correct Deficiencies from Above Ceiling Inspection in Kitchen	2 days	2/24/17	12/14/16	2/27/17	12/15/16
287	**Controlled Air**	0 days	2/24/17	12/14/16	2/24/17	12/14/16
288	Install Ceiling Tile at 3rd Floor Area A	4 days	2/28/17	12/16/16	3/3/17	12/21/16
289	**Complete Overhead Rough-in 2nd Floor Area B**	**0 days**	2/28/17	12/16/16	2/28/17	12/16/16
290	**Complete Deficiencies from Above Ceiling Inspection in Kitchen**	0 days	2/28/17	12/16/16	2/28/17	12/16/16
291	Prep & Pour Slab-on-Grade & Ramp at Mechanical Yard (includes trench	5 days	3/1/17	12/19/16	3/7/17	12/23/16
292	Apply ALL Coats of Paint to Exposed Structure in Auditorium	3 days	3/1/17	12/19/16	3/3/17	12/21/16
293	Apply Finish Coat of Paint in Kitchen	**4 days**	3/1/17	12/19/16	3/6/17	12/22/16
294	Install Ceiling Tile in Kitchen	1 day	3/1/17	12/19/16	3/1/17	12/19/16
295	**Perform Above Ceiling Inspection at 2nd Floor Area B**	**0 days**	3/1/17	12/19/16	3/1/17	12/19/16
296	Install Casework & Equipment 2nd Floor Area A	8 days	3/2/17	12/20/16	3/13/17	12/29/16
297	Correct Deficiencies from Above Ceiling Inspection at 2nd Floor Area B	3 days	3/2/17	12/20/16	3/6/17	12/22/16
298	Set Plumbing Fixtures (includes final connections) at 1st Floor Area A (start in bathrooms)	8 days	3/3/17	12/12/16	3/14/17	12/21/16
299	Install Porcelain Tile at 2nd Floor Area A (includes floor prep)	25 days	3/3/17	12/12/16	4/6/17	1/13/17
300	Install Wood Flooring at Gymnasium (excludes finish except under bleacl	20 days	3/6/17	12/30/16	3/31/17	1/26/17
301	Apply ALL Coats of Paint to Exposed Structure in Cafeteria	5 days	3/6/17	12/22/16	3/10/17	12/28/16
302	Install Ceiling Grid System in Auditorium	4 days	3/6/17	12/22/16	3/9/17	12/27/16
303	Install Wood Floor at Stage (includes trim at front of stage)	5 days	3/6/17	12/22/16	3/10/17	12/28/16
304	**Complete Deficiencies from Above Ceiling Inspection at 2nd Floor A**	**0 days**	3/7/17	12/23/16	3/7/17	12/23/16
305	Install Resilient Flooring, Base & Accessories at 2nd Floor Area A	10 days	3/8/17	12/26/16	3/21/17	1/6/17
306	Install Resin Floor in Kitchen	10 days	3/8/17	12/23/16	3/21/17	1/5/17
307	Install Ceramic Tile at 3rd Floor Area A	8 days	3/8/17	12/15/16	3/17/17	12/26/16
308	Install Casework & Equipment at 3rd Floor Area A	5 days	3/8/17	12/15/16	3/14/17	12/21/16
309	Apply Finish Coat of Paint at 2nd Floor Area B (start in bathrooms)	8 days	3/8/17	12/26/16	3/17/17	1/4/17
310	Install Ceiling Tile 2nd Floor Area B	4 days	3/8/17	12/26/16	3/13/17	12/29/16
311	Install Carpet at 1st Floor Area A (start in Media Center)	6 days	3/10/17	12/28/16	3/17/17	1/4/17
312	Install Ceramic Tile at 2nd Floor Area A	10 days	3/10/17	12/19/16	3/23/17	12/30/16
313	Install Resilient Flooring, Base & Accessories at 3rd Floor Area A	8 days	3/10/17	12/19/16	3/21/17	12/28/16
314	Install Resin Flooring at 2nd Floor Area B	20 days	3/10/17	12/28/16	4/6/17	1/24/17
315	Install Light Fixtures & Systems in Auditorium (includes final connections)	5 days	3/10/17	12/28/16	3/16/17	1/3/17
316	Install Suspended Acoustical Ceiling & Accent Canopies in Cafeteria	8 days	3/13/17	12/29/16	3/22/17	1/9/17
317	Install Carpet at 2nd Floor Area B	4 days	3/14/17	12/30/16	3/17/17	1/4/17

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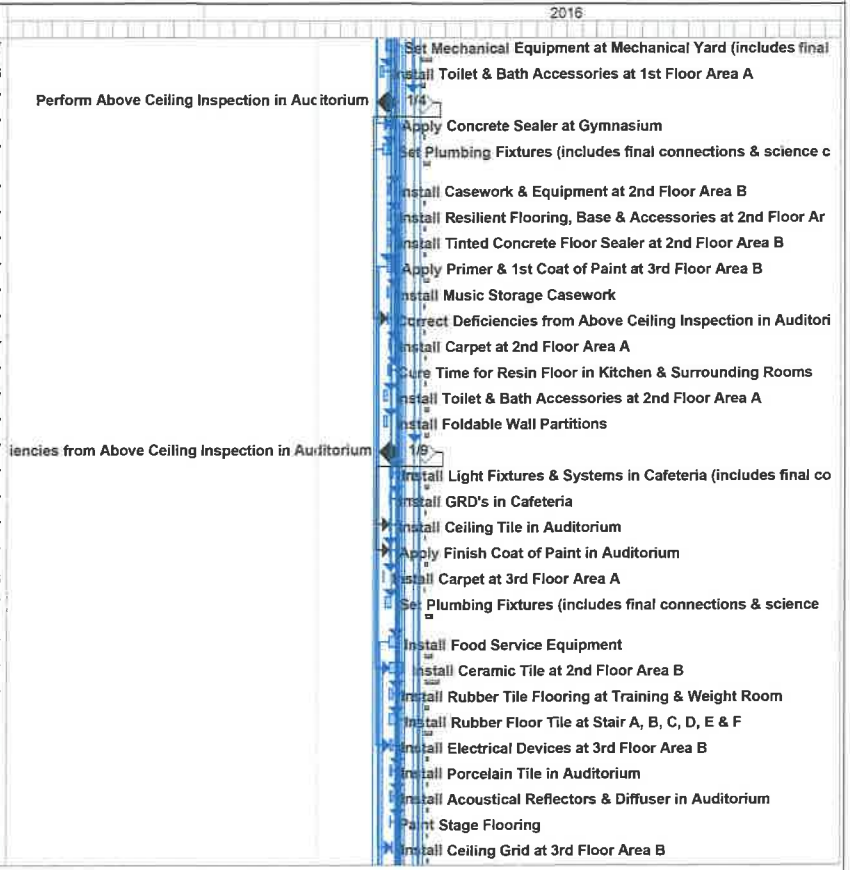
318	Set Mechanical Equipment at Mechanical Yard (includes final connection	15 days	3/15/17	1/2/17	4/4/17	1/20/17
319	Install Toilet & Bath Accessories at 1st Floor Area A	5 days	3/15/17	12/22/16	3/21/17	12/28/16
320	**Perform Above Ceiling Inspection in Auditorium**	**0 days**	3/17/17	1/4/17	3/17/17	1/4/17
321	Apply Concrete Sealer at Gymnasium	2 days	3/20/17	1/13/17	3/21/17	1/16/17
322	Set Plumbing Fixtures (includes final connections & science casework) at 3rd Floor Area A (start in bathrooms)	10 days	3/20/17	12/27/16	3/31/17	1/9/17
323	Install Casework & Equipment at 2nd Floor Area B	3 days	3/20/17	1/5/17	3/22/17	1/9/17
324	Install Resilient Flooring, Base & Accessories at 2nd Floor Area B	4 days	3/20/17	1/5/17	3/23/17	1/10/17
325	Install Tinted Concrete Floor Sealer at 2nd Floor Area B	4 days	3/20/17	1/5/17	3/23/17	1/10/17
326	Apply Primer & 1st Coat of Paint at 3rd Floor Area B	8 days	3/20/17	1/5/17	3/29/17	1/16/17
327	Install Music Storage Casework	2 days	3/20/17	1/5/17	3/21/17	1/6/17
328	Correct Deficiencies from Above Ceiling Inspection in Auditorium	2 days	3/20/17	1/5/17	3/21/17	1/6/17
329	Install Carpet at 2nd Floor Area A	2 days	3/22/17	1/9/17	3/23/17	1/10/17
330	Cure Time for Resin Floor in Kitchen & Surrounding Rooms	2 days	3/22/17	1/6/17	3/23/17	1/9/17
331	Install Toilet & Bath Accessories at 2nd Floor Area A	5 days	3/22/17	12/29/16	3/28/17	1/4/17
332	Install Foldable Wall Partitions	5 days	3/22/17	12/29/16	3/28/17	1/4/17
333	**Complete Deficiencies from Above Ceiling Inspection in Auditorium**	**0 days**	3/22/17	1/9/17	3/22/17	1/9/17
334	Install Light Fixtures & Systems in Cafeteria (includes final connections)	5 days	3/23/17	1/10/17	3/29/17	1/16/17
335	Install GRD's in Cafeteria	2 days	3/23/17	1/10/17	3/24/17	1/11/17
336	Install Ceiling Tile in Auditorium	1 day	3/23/17	1/10/17	3/23/17	1/10/17
337	Apply Finish Coat of Paint in Auditorium	3 days	3/23/17	1/10/17	3/27/17	1/12/17
338	Install Carpet at 3rd Floor Area A	1 day	3/22/17	12/29/16	3/22/17	12/29/16
339	Set Plumbing Fixtures (includes final connections & science casework) at 2nd Floor Area A (start in bathrooms)	10 days	3/24/17	1/2/17	4/6/17	1/13/17
340	Install Food Service Equipment	10 days	3/24/17	1/10/17	4/6/17	1/23/17
341	Install Ceramic Tile at 2nd Floor Area B	20 days	3/24/17	1/11/17	4/20/17	2/7/17
342	Install Rubber Tile Flooring at Training & Weight Room	5 days	3/24/17	1/11/17	3/30/17	1/17/17
343	Install Rubber Floor Tile at Stair A, B, C, D, E & F	10 days	3/24/17	1/11/17	4/6/17	1/24/17
344	Install Electrical Devices at 3rd Floor Area B	4 days	3/27/17	1/12/17	3/30/17	1/17/17
345	Install Porcelain Tile in Auditorium	2 days	3/28/17	1/13/17	3/29/17	1/16/17
346	Install Acoustical Reflectors & Diffuser in Auditorium	3 days	3/28/17	1/13/17	3/30/17	1/17/17
347	Paint Stage Flooring	1 day	3/28/17	1/13/17	3/28/17	1/13/17
348	Install Ceiling Grid at 3rd Floor Area B	2 days	3/29/17	1/16/17	3/30/17	1/17/17



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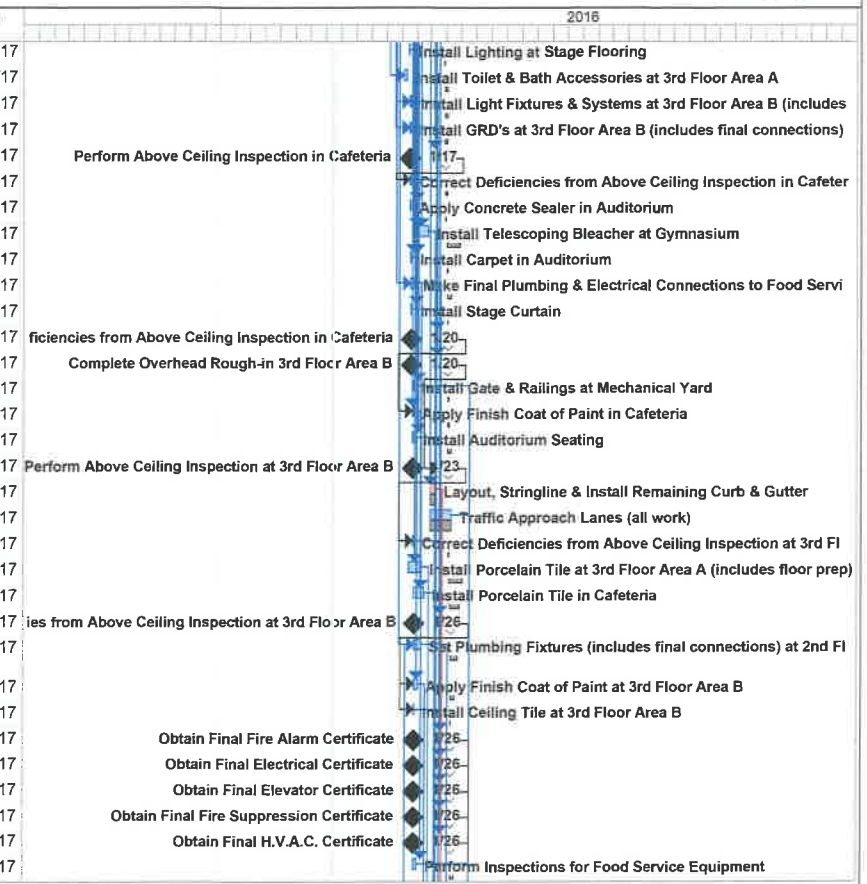
349	Install Lighting at Stage Flooring	1 day	3/29/17	1/16/17	3/29/17	1/16/17
350	Install Toilet & Bath Accessories at 3rd Floor Area A	4 days	3/30/17	1/6/17	4/4/17	1/11/17
351	Install Light Fixtures & Systems at 3rd Floor Area B (includes final connec	4 days	3/30/17	1/17/17	4/4/17	1/20/17
352	Install GRD's at 3rd Floor Area B (includes final connections)	3 days	3/30/17	1/17/17	4/3/17	1/19/17
353	**Perform Above Ceiling Inspection in Cafeteria**	**0 days**	3/30/17	1/17/17	3/30/17	1/17/17
354	Correct Deficiencies from Above Ceiling Inspection in Cafeteria	2 days	3/31/17	1/18/17	4/3/17	1/19/17
355	Apply Concrete Sealer in Auditorium	1 day	3/31/17	1/18/17	3/31/17	1/18/17
356	Install Telescoping Bleacher at Gymnasium	20 days	4/3/17	1/27/17	4/28/17	2/23/17
357	Install Carpet in Auditorium	2 days	4/3/17	1/19/17	4/4/17	1/20/17
358	Make Final Plumbing & Electrical Connections to Food Service Equipmer	6 days	4/4/17	1/19/17	4/11/17	1/26/17
359	Install Stage Curtain	1 day	4/4/17	1/20/17	4/4/17	1/20/17
360	**Complete Deficiencies from Above Ceiling Inspection in Cafeteria**	**0 days**	4/4/17	1/20/17	4/4/17	1/20/17
361	**Complete Overhead Rough-in 3rd Floor Area B**	**0 days**	4/4/17	1/20/17	4/4/17	1/20/17
362	Install Gate & Railings at Mechanical Yard	2 days	4/5/17	1/23/17	4/6/17	1/24/17
363	Apply Finish Coat of Paint in Cafeteria	3 days	4/5/17	1/23/17	4/7/17	1/25/17
364	Install Auditorium Seating	5 days	4/5/17	1/23/17	4/11/17	1/27/17
365	**Perform Above Ceiling Inspection at 3rd Floor Area B**	**0 days**	4/5/17	1/23/17	4/5/17	1/23/17
366	Layout, Stringline & Install Remaining Curb & Gutter	8 days	3/1/17	3/1/17	3/10/17	3/10/17
367	Traffic Approach Lanes (all work)	30 days	3/1/17	3/1/17	4/11/17	4/11/17
368	Correct Deficiencies from Above Ceiling Inspection at 3rd Floor Area B	2 days	4/6/17	1/24/17	4/7/17	1/25/17
369	Install Porcelain Tile at 3rd Floor Area A (includes floor prep)	20 days	4/7/17	1/16/17	5/4/17	2/10/17
370	Install Porcelain Tile in Cafeteria	15 days	4/10/17	1/26/17	4/28/17	2/15/17
371	**Complete Deficiencies from Above Ceiling Inspection at 3rd Floor Ar**	**0 days**	4/10/17	1/26/17	4/10/17	1/26/17
372	Set Plumbing Fixtures (includes final connections) at 2nd Floor Area B (start in bathrooms)	10 days	4/11/17	1/27/17	4/24/17	2/9/17
373	Apply Finish Coat of Paint at 3rd Floor Area B	6 days	4/11/17	1/27/17	4/18/17	2/3/17
374	Install Ceiling Tile at 3rd Floor Area B	1 day	4/11/17	1/27/17	4/11/17	1/27/17
375	**Obtain Final Fire Alarm Certificate**	**0 days**	4/11/17	1/26/17	4/11/17	1/26/17
376	**Obtain Final Electrical Certificate**	**0 days**	4/11/17	1/26/17	4/11/17	1/26/17
377	**Obtain Final Elevator Certificate**	**0 days**	4/11/17	1/26/17	4/11/17	1/26/17
378	**Obtain Final Fire Suppression Certificate**	**0 days**	4/11/17	1/26/17	4/11/17	1/26/17
379	**Obtain Final H.V.A.C. Certificate**	**0 days**	4/11/17	1/26/17	4/11/17	1/26/17
380	Perform Inspections for Food Service Equipment	5 days	4/12/17	1/27/17	4/18/17	2/2/17



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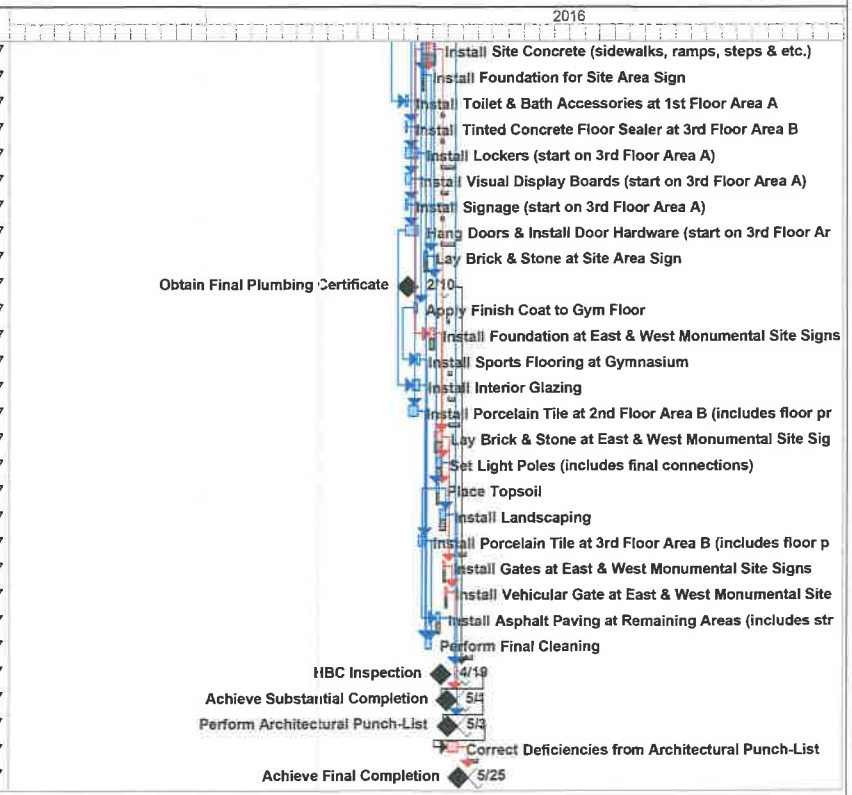
381	Install Site Concrete (sidewalks, ramps, steps & etc.)	20 days	3/13/17	3/13/17	4/7/17	4/7/17
382	Install Foundation for Site Area Sign	3 days	3/13/17	3/13/17	3/15/17	3/15/17
383	Install Toilet & Bath Accessories at 1st Floor Area A	5 days	4/19/17	2/6/17	4/25/17	2/10/17
384	Install Tinted Concrete Floor Sealer at 3rd Floor Area B	4 days	4/19/17	2/6/17	4/24/17	2/9/17
385	Install Lockers (start on 3rd Floor Area A)	20 days	4/19/17	2/6/17	5/16/17	3/3/17
386	Install Visual Display Boards (start on 3rd Floor Area A)	10 days	4/19/17	2/6/17	5/2/17	2/17/17
387	Install Signage (start on 3rd Floor Area A)	5 days	4/19/17	2/6/17	4/25/17	2/10/17
388	Hang Doors & Install Door Hardware (start on 3rd Floor Area A)	20 days	4/19/17	2/6/17	5/16/17	3/3/17
389	Lay Brick & Stone at Site Area Sign	5 days	3/16/17	3/16/17	3/22/17	3/22/17
390	**Obtain Final Plumbing Certificate**	**0 days**	4/25/17	2/10/17	4/25/17	2/10/17
391	Apply Finish Coat to Gym Floor	5 days	5/1/17	2/24/17	5/5/17	3/2/17
392	Install Foundation at East & West Monumental Site Signs	8 days	3/27/17	3/27/17	4/5/17	4/5/17
393	Install Sports Flooring at Gymnasium	5 days	5/4/17	3/1/17	5/10/17	3/7/17
394	Install Interior Glazing	10 days	5/4/17	2/21/17	5/17/17	3/6/17
395	Install Porcelain Tile at 2nd Floor Area B (includes floor prep)	15 days	5/5/17	2/13/17	5/25/17	3/3/17
396	Lay Brick & Stone at East & West Monumental Site Signs	12 days	4/6/17	4/6/17	4/21/17	4/21/17
397	Set Light Poles (includes final connections)	8 days	4/10/17	4/10/17	4/19/17	4/19/17
398	Place Topsoil	5 days	4/10/17	4/10/17	4/14/17	4/14/17
399	Install Landscaping	10 days	4/17/17	4/17/17	4/28/17	4/28/17
400	Install Porcelain Tile at 3rd Floor Area B (includes floor prep)	10 days	5/26/17	3/6/17	6/8/17	3/17/17
401	Install Gates at East & West Monumental Site Signs	4 days	4/24/17	4/24/17	4/27/17	4/27/17
402	Install Vehicular Gate at East & West Monumental Site Signs	2 days	4/28/17	4/28/17	5/1/17	5/1/17
403	Install Asphalt Paving at Remaining Areas (includes stripping, signage &	6 days	4/10/17	4/10/17	4/17/17	4/17/17
404	Perform Final Cleaning	10 days	6/9/17	3/20/17	6/22/17	3/31/17
405	**HBC Inspection**	**0 days**	6/8/17	4/19/17	6/8/17	4/19/17
406	**Achieve Substantial Completion**	**0 days**	6/8/17	5/1/17	6/8/17	5/1/17
407	**Perform Architectural Punch-List**	**0 days**	6/12/17	5/3/17	6/12/17	5/3/17
408	Correct Deficiencies from Architectural Punch-List	15 days	6/13/17	5/4/17	7/3/17	5/24/17
409	**Achieve Final Completion**	**0 days**	7/5/17	5/25/17	7/5/17	5/25/17



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SECTION 01030
ALTERNATES

An alternate is an amount proposed by Bidders and stated on the Form of Proposal for certain items that may be added or deducted from the Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in the Contract Documents.

Coordination: Coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted alternate is complete and fully integrated into the Project.

Notification: Immediately following Contract award, prepare and distribute to each party involved, notification of the status of each alternate. Indicate whether alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to alternates.

Schedule: A "Schedule of Alternates" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the Work described under each alternate.

Include as part of each alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the alternate.

SCHEDULE OF ALTERNATES

There are no alternates or allowances for this bid package.

5. Changes:
   a. Recommend necessary or desirable changes to Architect.
   b. Review Contractors' request for changes and for substitutions; submit recommendations to Architect.
   c. Assist Architect in negotiating change orders.
   d. Assist in the implementation of change orders.

6. Interpretations of Contract Documents:
   a. Consult with Architect to obtain interpretations.
   b. Assist in resolution of questions which may arise.
   c. Transmit written interpretations to concerned parties.

7. Administer processing of:
   a. Payment requests.
   b. Shop drawings, product data and samples.
   c. Field drawings.
   d. Coordination drawings.
   e. Change orders.

8. Verify that specified cleaning is done.
   a. During progress of work.
   b. At completion of each contract.

9. Substantial completion:
   a. Upon determination of substantial completion of work, or portion thereof, prepare for Architect a list of incomplete or unsatisfactory items.

10. Final Completion:
    a. Upon determination that work is finally completed:
       I. Submit written notice to Architect and Owner's representative that work is ready for final inspection.
       ii. Secure and transmit to Architect required closeout submittals.
    b. Turn over to Architect warranties, operations and maintenance data for review.
    c. Turn over to Owner spare parts and maintenance materials.

11. The Construction Manager reserves the right to monitor payment and delivery activities direct with Contractor's suppliers. Each Contractor will provide, upon request by CM, a complete list of suppliers with purchase order numbers, addresses, telephone numbers, and contact person under respective bid divisions.

SECTION 01100
PROJECT COORDINATION
DUTIES OF EACH CONTRACTOR

1. Coordinate work of employees and subcontractors under the Contract.

2. Provide adequate information (time frames and manpower requirements) and delivery dates for the development of a Project Schedule by the CM.

3. Conduct work and expedite materials and equipment to assure compliance with schedules.

4. Transmit written instructions to concerned suppliers and subcontractors.

5. Under the administration of the Construction Manager, coordinate work with that of other contractors.

6. Cooperate with CM and Architect/Engineer.

7. Forward all communications to the Owner and Architect through the CM.

8. Attend Project Meetings as required, or as determined by the Construction Manager.

9. The normal work schedule will be five (5) eight (8) hour days, Monday through Friday of each week. Any deviation from this schedule will be subject to the approval of the Construction Manager. Contractors may be required to work additional hours to maintain construction schedule, at no additional cost to Owner.

10. Provide adequate manpower, material and equipment to keep the jobsite and work areas free from debris, dust and mud. Each Contractor shall be responsible for the removal from the site of debris resulting from the processing of their work.

CONSTRUCTION AND SAFETY DEVICES

1. a. Provide safety controls for protection of life and health of employees. Utilize precautionary methods for prevention of damage of property, materials, supplies and equipment, and for avoidance of work interruptions in performance of this Contract.
   b. In order to provide such safety controls aforesaid, Contractor shall comply with all pertinent provisions of Kentucky Safety Standards of Division of Occupational Safety, Department of Labor, and Federal Occupational Safety and Health Construction Standards, that are in effect at the time this Contract is entered into and during the period in which the Contract is to be performed.
   c. Compliance with provisions of foregoing sections by subcontractors shall be the responsibility of the prime contractor.

SECTION 01100
PROJECT COORDINATION

TRANSPORTATION

1. Materials, products, and equipment shall be properly containerized, packaged, boxed, and protected to prevent damage during transportation and handling.

2. More detailed requirements for transportation and handling are specified under technical sections.

STORAGE AND PROTECTION

1. Store and protect materials delivered at site from damage. Do not use damaged material on work. Protect existing roof warranty and from damage.

IDENTIFYING MARKINGS

1. Do not fix nameplates and other identifying markings on exposed surfaces of manufactured items installed in finished spaces.

MEASUREMENTS

1. All Contractors furnished materials and equipment for this contract shall obtain exact dimensions at site.

2. Scale and figure dimensions on Drawings indicate correct size under ideal conditions and shall not, under any circumstances, be so construed as to relieve Contractor from responsibility of taking measurements at site and furnishing materials and equipment of correct size.

COOPERATION AND DISPUTES

1. The timely completion of this project is dependent largely upon the close and active cooperation and coordination of all those involved. It is therefore expressly understood and agreed that each Contractor shall lay out and install his work at such time or times, and in such a manner, as not to delay or interfere with the carrying forward of the work of other Contractors.

2. In the event a dispute arises with respect to possible or alleged interference between Contractors which may retard the progress of the work, the dispute shall be heard and settled by the CM and Architect, whose decision as to the party or parties at fault, and as to the manner in which the matter may be settled, shall be binding and conclusive on all parties.

END OF PROJECT COORDINATION

SECTION 01200
PROJECT MEETINGS

1. The Construction Manager shall schedule and administer pre-bid meetings, pre-construction meetings, periodic progress meetings, and specially called meetings throughout the progress of the work. This responsibility includes:
   a. Prepare agenda for meetings.
   b. Make physical arrangements for meetings.
   c. Preside at the meetings.
   d. Record the minutes, including all significant proceedings and decisions.
   e. Reproduce and distribute copies of minutes three (3) days after each meeting to go to the following:
      I. All participants in the meeting.
      ii. All parties affected by decisions made at the meeting.
      iii. The Architect/Engineer and Owner.

2. Representatives of contractors, subcontractors and suppliers attending the meetings shall be qualified and authorized to act on behalf of the respective parties they each represent.

3. Architect/Engineer may attend meetings to ascertain that work is expedited consistent with the Contract Documents and Construction Schedule.

PRE-BID MEETINGS

1. Meeting with interested key bidders shall be held after documents have been sent out and before the bid date. The purpose of the meeting is to answer questions generated by the Contractors' initial review of the bidding documents. The Owner, Architect/Engineer, and Construction Manager shall be on hand to answer questions. Bidders are urged to attend. Meeting minutes shall be issued as part of an addendum.

PRE-CONSTRUCTION MEETINGS

1. Schedule within 15 days after date of Notice to Proceed.

2. Location: A central site, convenient for all parties, designated by the Construction Manager.

3. Attendance:
   a. Owner's Representative
   b. Architect/Engineer and his professional consultants
   c. Construction Manager
   d. Contractors and Major Suppliers
   e. Others as appropriate

4. Suggested Agenda:
   a. Distribution and discussion of:
      I. List of major subcontractors and suppliers.
      ii. Projected Construction Schedules.
   b. Critical work sequencing.
   c. Major equipment deliveries and priorities.
   d. Project Coordination.
   e. Procedures and processing of:
      I. Field decisions
      ii. Proposal requests
      iii. Submittals
      iv. Change Orders
      v. Applications for payment
   f. Adequacy of distribution of Contract Documents.
   g. Procedures on maintaining documents.
   h. Use of premises:
      I. Office, work and storage area.
      ii. Owner's requirements.
   I. Construction facilities, controls and construction aids.
   j. Temporary utilities.
   k. Safety and first-aid procedures.
   l. Security procedures.
   m. Housekeeping procedures.

PROGRESS MEETINGS

1. Schedule regular periodic meetings as required.

2. Hold called meetings as required by progress of work.

3. Location of the meetings: The project field office of the Construction Manager.

4. Attendance:
   a. Architect/Engineer, or his professional consultants as needed.
   b. Contractors as appropriate to the agenda.
   c. Suppliers as appropriate to the agenda.
   d. Others.

5. Suggested Agenda:
   a. Review of work progress since previous meeting.
   b. Field observations, problems, conflicts.
   c. Problems which impede Construction Schedule.
   d. Review of off-site fabrication and delivery schedules.
   e. Corrective measures and procedures to regain projected schedule.
   f. Coordination of schedules.

g. Review submittal schedules: Expedite as required.
h. Review of work proposed before next meeting.

6. Attendance at progress meetings is considered a part of the performance of the contract. The purpose of this meeting is to schedule and coordinate the entire project. If a contractor or Material Supplier has been properly notified by the Construction Manager to attend said meeting and it is not attended by a representative of the Contractor or Material Supplier, familiar with this project, and with pertinent information concerning this project, payment can be withheld until such time as another meeting can be held.

SECTION 01300
SUBMITTALS

1. Submit Shop Drawings, Product Data and Samples required by the Contract Documents. These items to be submitted to the Construction Manager.

2. All submittals shall be provided to the Construction Manager within 30 days of the contract award. Particular attention shall be taken to submit long lead time materials first, i.e., windows, electrical panels, mechanical equipment, hollow metal, finish hardware, etc. All items requiring color selection must be submitted at the earliest possible date to allow the Architect and the Owner to finalize color and finish choices.

3. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail, schedule or room numbers shown on Contract Drawings. Copies of Contract Documents are not acceptable as shop drawings. Provide original drawings.

4. Product Data:
   a. Clearly mark each copy to identify pertinent products or models.
   b. Show performance characteristics and capacities.
   c. Show dimensions and clearances required.

5. Manufacturer's standard schematic drawings and diagrams:
   a. Modify drawings and diagrams to delete information which is not applicable to the work.
   b. Supplement standard information to provide information specifically applicable to the work.

6. Submit samples of sufficient size and quantity to clearly illustrate:
   a. Functional characteristics of the product with integrally related parts and attachment devices.
   b. Full range of color, texture and pattern.

NOTE: All submittal information is to be received by the Construction Manager within thirty (30) days of the date of notice to proceed or contract date, whichever is the earliest date. Failure to comply with this requirement will be considered as a failure to properly perform and comply with the project schedule.

CONTRACTOR/SUPPLIER RESPONSIBILITIES

1. Review Shop Drawings, Product Data and Samples prior to submission.

2. Determine and verify:
   a. Field measurements
   b. Field construction criteria
   c. Catalog numbers and similar data
   d. Conformance with specifications

3. Coordinate each submittal with requirements of the work and of the Contract Documents.

4. Notify the Construction Manager and Architect/Engineer in writing, at the time of submission, of deviations in the submittals from requirements of the Contract Documents.

5. Begin no fabrication or work which requires submittals until return of submittals reviewed by the Architect/Engineer with approval noted.

6. Photo Copies of original contract documents will be rejected.

SUBMISSION REQUIREMENTS

1. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the work or in the work of other contractors. Incorrect submittals shall be returned without review.

2. Number of submittals required:
   a. Shop Drawings: Submit the number of opaque reproductions which the Construction Manager requires, plus one copy which will be retained by the Architect/Engineer each. **A MINIMUM OF SEVEN SHALL BE REQUIRED.**
   b. Product Data: Submit number of copies which the Construction Manager requires, plus two which will be retained by the Architect/Engineer. **A MINIMUM OF SEVEN COPIES SHALL BE REQUIRED.**
   c. Samples: **TWO EACH.**

3. Submittals shall contain:
   a. Date of submission and dates of previous submissions.
   b. Project title and number.
   c. Contract identification.
   d. Names of:
      i. Contractor
      ii. Supplier
      iii. Manufacturer
   e. Identification of product with specification section number.
   f. Field dimensions, clearly identified as such.
   g. Relation to adjacent or critical features of the work or materials.
   h. Applicable standards, such as ASTM or Federal Specifications numbers.
   i. Identification of deviations from Contract Documents.
   j. Identification of revisions on re-submittals.
   k. An 8" x 3" blank space for Contractor, Construction Manager, and Architect/Engineer stamps.
   l. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of information within the submittal with requirements of the work and Contract Documents.

4. Stamp of Architect or Consultant on returned shop drawings and samples shall be interpreted as follows:
   a. No Exceptions Taken: No corrections, proceed with work.
   b. Note Markings: Items marked up shall not be fabricated or furnished without incorporation of marks and notes.
   c. Rejected: Item is rejected as not in accordance with contract requirements, or for other justified cause. Submission shall be revised and resubmitted. No item shall be fabricated or furnished under this stamp.
   d. Confirm: Submit written verification that shop drawings and samples have been revised to comply with markings.
   e. Resubmit: Submit revised Shop Drawings and Samples for review.

5. A Contractor or Material Supplier shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Construction Manager's and/or the Architect's review of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Construction Manager and the Architect in writing of such deviation at the time of submission and the Construction Manager and Architect have given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect's approval thereof.

6. Any Contractor or Material Supplier, upon the request from the Construction Manager, will provide adequate information to verify the quantity of specific materials which have been ordered for this project. This does not relieve the Contractor or Material Supplier of the responsibility of providing adequate materials on a timely basis to meet the project schedule.

RE-SUBMISSION REQUIREMENTS

1. Make corrections or changes in submittals required by the Architect/Engineer and re-submit.

2. Shop Drawings and Product Data:
   a. Revise initial drawings or data and re-submit as specified for initial submittal.
   b. Indicate changes which have been made other than those requested by the Architect/Engineer.

3. Samples: Submit new samples as required for initial submittal.

4. Resubmittals shall be made within two weeks of return of rejected submittals.

DISTRIBUTION BY CONSTRUCTION MANAGER

1. Distribute reproductions of Shop Drawings and copies of Product Data which carry the Architect/Engineer stamped no exceptions taken or note markings to:
   a. Jobsite file.
   b. Record documents file.
   c. Other affected Contractors.
   d. Owner

2. Distribute samples which carry the Architect/Engineer stamp of approval as directed by the Architect/Engineer.

ARCHITECT/ENGINEER DUTIES

1. Review submittals with reasonable promptness and in accordance with the schedule.

2. Affix stamp and initials or signature, and indicate requirements for re-submittal, or review of submittal.

3. Return submittals through Construction Manager for distribution, or for re-submission to Contractors and Material Suppliers.

Note: Contractors to keep approved shop drawings on site at all times. (No Exceptions).

SECTION 01400
CODES, STANDARDS, AND INDUSTRY SPECIFICATIONS

1. a. Material or operations specified by reference to published specifications of a manufacturer, testing agency, society, association or other published standards shall comply with requirements thereto in effect on date of Advertisement for Bidders.

   b. Discrepancies between referenced codes, standards, specifications and Contract Documents shall be brought to the attention of the Construction Manager for clarification by the Design Team.

   c. Material or work specified by reference to conform to a standard, code, law or regulation shall be governed by Contract Documents when they exceed requirements of such references; referenced standards shall govern when they exceed Contract Documents.

   d. Proof of Compliance.

Whenever Contract Documents require that a product be in accordance with Federal Specification, ASTM designation, ANSI specification, or other association standard, at Architect's request, Contractor shall present an affidavit from manufacturer certifying that product complies therewith. Where requested or specified, submit supporting test data to substantiate.

MANUFACTURER'S DIRECTIONS

Utilize manufactured articles, materials and equipment as directed by manufacturer unless herein specified to contrary. Discrepancy between an installation required by Contract Documents and manufacturer's instructions and recommendations shall be resolved by Architect before work may proceed.

QUALITY CONTROL AND TESTING LABORATORY SERVICES

The Owner will provide all testing services for required testing with the exception of Division 15000 and 16000.

CONTRACTOR'S RESPONSIBILITY

1. Cooperate with laboratory personnel, provide access to work, and install work according to manufacturer's operations.

2. Secure and deliver to laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

3. Provide to laboratory preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.

4. Furnish copies of Products test reports as required.

5. Furnish incidental labor and facilities:
   a. To provide access to work to be tested.
   b. To obtain and handle samples at project site, or at source of product to be tested.
   c. To facilitate inspections and tests.
   d. For storage and curing of test samples.

6. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of test.

7. Employ and pay for services of separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required:
   a. For the Contractor's convenience.
   b. When initial tests indicate work does not comply with the Contract Documents.

8. Promptly submit three (3) copies of written reports of all tests and inspections to Architect/Engineer and Construction Manager. Each report shall include:
   a. Date issued.
   b. Project title and number.
   c. Testing laboratory name, address and telephone number.
   d. Name and signature of laboratory inspector.
   e. Date and time of sampling or inspection.
   f. Record of temperature and weather conditions.
   g. Date of test.
   h. Identification of product and specification section.
   i. Location of sample or test in the project.
   j. Type of inspection or test.
   k. Results of tests and compliance with Contract Documents.
   l. Interpretation of test results, when requested by Architect/Engineer or Construction Manager.
   m. Reports with incomplete information will be rejected and returned for corrections.

9. Incomplete reports may be rejected and payments may be withheld until corrected reports are submitted.

SECTION 01420 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

J. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

K. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.

C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

D. Copies of Standards: Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.

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

ADAAG	Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities Available from Access Board www.access-board.gov	 (800) 872-2253 (202) 272-5434
CFR	Code of Federal Regulations Available from Government Printing Office www.access.gpo.gov/nara/cfr	 (888) 293-6498 (202) 512-1530
CRD	Handbook for Concrete and Cement Available from Army Corps of Engineers Waterways Experiment Station www.wes.army.mil	 (601) 634-2355
DOD	Department of Defense Specifications and Standards Available from Defense Automated Printing Service www.astimage.daps.dla.mil/online	 (215) 697-6257
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Defense Automated Printing Service www.astimage.daps.dla.mil/online	 (215) 697-6257
	Available from General Services Administration www.fss.gsa.gov/pub/fed-specs.cfm	(202) 619-8925
	Available from National Institute of Building Sciences www.nibs.org	(202) 289-7800
FTMS	Federal Test Method Standard (See FS)	
MILSPEC	Military Specification and Standards Available from Defense Automated Printing Service www.astimage.daps.dla.mil/online	 (215) 697-6257
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	 (800) 872-2253 (202) 272-5434

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

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

AA	Aluminum Association, Inc. (The) www.aluminum.org	(202) 862-5100
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AAN	American Association of Nurserymen (See ANLA)	
AASHTO	American Association of State Highway and Transportation Officials www.aashto.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	American Concrete Institute/ACI International www.aci-int.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AFPA	American Forest & Paper Association (See AF&PA)	

AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHA	American Hardboard Association www.hardboard.org	(847) 934-8800
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America www.alca.org	(800) 395-2522 (703) 736-9666
ALSC	American Lumber Standard Committee	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANLA	American Nursery & Landscape Association (Formerly: AAN - American Association of Nurserymen) www.anla.org	(202) 789-2900
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts www.aosaseed.com	(505) 522-1437
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600

APA	Architectural Precast Association www.archprecast.org	(941) 454-6989
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ASCA	Architectural Spray Coaters Association www.ascassoc.com	(609) 848-6120
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (212) 591-7722
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWCI	AWCI International (Association of the Wall and Ceiling Industries International) www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (See WCMA)	
AWI	Architectural Woodwork Institute www.awinet.org	(800) 449-8811 (703) 733-0600
AWPA	American Wood-Preservers' Association www.awpa.com	(817) 326-6300
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711

BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
CCC	Carpet Cushion Council www.carpetcushion.org	(203) 637-1312
CCFSS	Center for Cold-Formed Steel Structures www.umr.edu/~ccfss	(573) 341-4471
CDA	Copper Development Association Inc. www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CGSB	Canadian General Standards Board www.pwgsc.gc.ca/cgsb	(819) 956-0425
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176

CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(800) 463-6727 (416) 747-4000
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eifsfacts.com	(800) 294-3462 (770) 968-7945
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
FCI	Fluid Controls Institute www.fluidcontrolsinstitute.org	(216) 241-7333
FGMA	Flat Glass Marketing Association (See GANA)	
FM	Factory Mutual System (See FMG)	
FMG	FM Global (Formerly: FM - Factory Mutual System) www.fmglobal.com	(401) 275-3000
FSC	Forest Stewardship Council www.fscoax.org	52 951 5146905
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America (Formerly: FGMA - Flat Glass Marketing Association) www.glasswebsite.com/gana	(785) 271-0208

GRI	Geosynthetic Research Institute www.drexel.edu/gri	(215) 895-2343
GTA	Glass Tempering Division of Glass Association of North America (See GANA)	
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (See NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (See CSA)	
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance (The) www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426

ISSFA	International Solid Surface Fabricators Association	(702) 567-8150
I3A	International Imaging Industry Association (Formerly: PIMA - Photographic & Imaging Manufacturers Association) www.pima.net	(914) 698-7603
ITS	Intertek Testing Services www.itsglobal.com	(800) 345-3851 (607) 753-6711
IWS	Insect Screening Weavers Association (Now defunct)	
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LMA	Laminating Materials Association (Formerly: ALA - American Laminators Association) www.lma.org	(201) 664-2700
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864 (847) 577-7200
LSGA	Laminated Safety Glass Association (See GANA)	
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association www.maplefloor.org	(847) 480-9138
MFMA	Metal Framing Manufacturers Association www.metalframingmfg.org	(312) 644-6610
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(614) 228-6194
ML/SFA	Metal Lath/Steel Framing Association (See SSMA)	
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613

NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(312) 332-0405
NAAMM	North American Association of Mirror Manufacturers (See GANA)	
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(281) 228-6200
NAIMA	North American Insulation Manufacturers Association (The) www.naima.org	(703) 684-0084
NAMI	National Accreditation and Management Institute, Inc.	(304) 258-5100
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(414) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-3550
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(303) 697-8441
NFPA	National Fire Protection Association www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-6372

NGA	National Glass Association www.glass.org	(703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association www.nofma.org	(901) 526-5016
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSA	National Stone Association (See NSSGA)	
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association (Formerly: NSA - National Stone Association) www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo and Mosaic Association, Inc. www.ntma.com	(800) 323-9736 (703) 779-1022
NWWDA	National Wood Window and Door Association (See WDMA)	
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting and Decorating Contractors of America www.pdca.com	(800) 332-7322 (703) 359-0826
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (508) 230-3516
PGI	PVC Geomembrane Institute //pgi-tp.ce.uiuc.edu	(217) 333-3929
RCSC	Research Council on Structural Connections www.boltcouncil.org	(800) 644-2400 (312) 670-2400

RFCI	Resilient Floor Covering Institute www.rfci.com	Contact by mail only
RIS	Redwood Inspection Service www.calredwood.org	(888) 225-7339 (415) 382-0662
SAE	SAE International www.sae.org	(724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 462-1930
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabfurn.com	(516) 294-5424
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIGMA	Sealed Insulating Glass Manufacturers Association (See IGMA)	
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.screenmfgassociation.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPI/SPFD	Society of the Plastics Industry (The) Spray Polyurethane Foam Division (See SPFA)	
SPRI	SPRI (Single Ply Roofing Institute) www.spri.org	(781) 444-0242

SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSMA	Steel Stud Manufacturers Association (Formerly: ML/SFA - Metal Lath/Steel Framing Association) www.ssma.com	(312) 456-5590
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, and Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TPI	Truss Plate Institute	(608) 833-5900
TPI	Turfgrass Producers International www.turfgrasssod.org	(800) 405-8873 (847) 705-9898
UL	Underwriters Laboratories Inc. www.ul.com	(800) 704-4050 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USITT	United States Institute for Theatre Technology, Inc. www.culturenet.ca/usitt	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association (See WCSC)	

WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association) www.windowcoverings.org	(800) 506-4636 (212) 661-4261
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (847) 299-5200
WIC	Woodwork Institute of California www.wicnet.org	(916) 372-9943
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

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

BOCA	BOCA International, Inc. www.bocai.org	(708) 799-2300
CABO	Council of American Building Officials (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials (The) www.iapmo.org	(909) 595-8449
ICBO	International Conference of Building Officials www.icbo.org	(800) 284-4406 (562) 699-0541
ICC	International Code Council, Inc. (Formerly: CABO - Council of American Building Officials) www.intlcode.org	(703) 931-4533
SBCCI	Southern Building Code Congress International, Inc. www.sbcci.org	(205) 591-1853

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

CE	Army Corps of Engineers www.usace.army.mil	
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-0990
DOC	Department of Commerce www.doc.gov	(202) 482-2000
EPA	Environmental Protection Agency www.epa.gov	(202) 260-2090
FAA	Federal Aviation Administration www.faa.gov	(202) 366-4000
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(202) 708-5082
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley Laboratory (See LBNL)	
LBNL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-5605
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Building Service (See GSA)	

RUS	Rural Utilities Service (See USDA)	(202) 720-9540
TRB	Transportation Research Board www.nas.edu/trb	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USPS	Postal Service www.usps.com	(202) 268-2000

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

CAPUC	(See CPUC)	
CBHF	State of California, Department of Consumer Affairs	(800) 952-5210
	Bureau of Home Furnishings and Thermal Insulation	(916) 574-2041
	www.dca.ca.gov/bhfti	
CPUC	California Public Utilities Commission	(415) 703-2782
	www.cpuc.ca.gov	
TFS	Texas Forest Service	(936) 639-8180
	Forest Products Laboratory //txforestservice.tamu.edu	

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01420

SECTION 01500
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

GENERAL
TEMPORARY UTILITIES
SUPPORT FACILITIES AND INSTALLTION
CONSTRUCTION AIDS
USE OF PERMANENT SYSTEMS

GENERAL

1. The following items apply to each individual Contractor as it pertains to their work, except as noted to be furnished by Construction Manager.

2. Barriers and Fire Protection: Bid Package # 31
    A. Provide suitable barriers and safety devices required to prevent public entry, worker safety, protect the work, existing facilities, trees and plants from construction.

3. Temporary Enclosures: Bid Package # 31
    A. Weather and Security Enclosures: Provide temporary enclosure of working progress if necessary to protect both the building interior and the work from whatever harmful effect may result from general exposure, foul weather, other construction operations and similar elements and activities at the site, and for the security of building contents. Coordinate temporary enclosures with ventilating and drying of the work requirements, so as to avoid dangerous conditions and detrimental effects.
    B. Temporary enclosures shall be erected in a safe suitable manner of appropriate material, maintained in good repair, and removed when no longer needed. Protect adjacent work from damage as necessary.

4. Temporary Storage Sheds (location determined by Construction Manager): 31
    A. Provide storage sheds to meet requirements of the various trades, with dimensions of sheds adequate for storage and handling of products. Provide ventilation adequate for products to be stored and to comply with code requirements. Maintain temperatures for products as specified and with the range recommended by manufacturer of products to be stored.
    B. Contractor shall relocate temporary structures, sheds, trailers and materials in storage as often as required for construction progress or as directed by the Construction Manager.
    C. Restore areas to original condition upon removal of trailer.

5. Cleaning Roads and Drives: Bid Package # 31
    A. Contractor shall provide both supervision, labor and equipment to ensure that earth, rock, building materials, debris and/or other materials that may fall from vehicles onto roads, drives, parking areas, or walks will be removed at once and that such materials or debris is not permitted to be tracked, carried or blown on to other paved areas or other parts of the property. Such care and control must be provided on a continuous basis

during all periods of activity during which materials or debris might fall onto pavement on a regular schedule at other times.

SUPPORT FACILITIES INTALLATION

6. Project Identification and Temporary Signs: Bid Package # 31

    A. Prepare project identification and other signs in sizes indicated. Install signs where indicated to inform public and persons seeking entrance to Project. Do not permit the installation of unauthorized signs.
    B. Engage an experienced sign painter to apply graphics for Project Identification signs.
    C. Provide and install a project sign of size, composition and color as provided by the Architect. Installation shall include all supporting framing and setting materials required to make the sign weather resistant and capable or withstanding normal environmental forces including rain, snow, ice and wind. Digitally printed sign, in UV resistant ink, shall be 8' w x 4' h on 4" x 4" posts set in 1' diameter holes 3'6" deep filled with concrete. Architect shall provide artwork to the contractor. See sign at end of section 01500.

7. Waste Disposal Facilities: Bid Package # 31
    A. Provide waste-collection containers in sizes adequate to handle waste from construction operations.
    B. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.

8. Weekly Cleaning: Bid Package # 31
    A. Clean entire Project site, including broom sweep interior of building, on a weekly basis or upon request of Construction Manager.
    B. Contractor shall be charged, for services arranged by the Construction Manager, for failing to meet acceptable standards of housekeeping.

9. Final Cleaning: Bid Package # 31
    A. Final cleaning shall mean to clean by acceptable methods all interior and exterior surfaces so the project can be ready for use by the Owner.
    B. Remove labels that are not required as permanent labels.
    C. Clean transparent materials, including mirrors and window/door glass, to a polish condition, removing substances that are noticeable as vision obscuring materials.
    D. Clean exposed exterior and interior hard-surfaced finishes, to a dirt free condition, free of dust, stains, films and similar noticeable distracting substances. Restore reflective surfaces to original reflective condition.
    E. Wipe surfaces of mechanical and electrical equipment clean; remove excess lubrication and other substances.
    F. Clean light fixtures and lamps so as to function with full efficiency.
    G. Clean project site (yard and grounds) involved in construction, including landscaped development areas, of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemcial

spills and other foreign deposits. Rake grounds that are neither planted nor paved, to a smooth even textured surface.

H. Clean concrete floors in non-occupied spaces.
I. Vacuum clean carpeted surfaces and similar soft surfaces.
J. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.

TEMPORARY UTILITIES

10. Temporary Sanitary Facilities: Bid Package # 31
    A. Comply with regulations and health codes for type, number, location, operation and maintenance of facilities.

11. Temporary Water: Bid Package # 31
    A. Contractor shall make connections to existing or new facilities and furnish materials and services to provide water for construction purposes.
    B. Install branch piping with taps located so that water is available throughout the construction site by use of hoses. Protect piping and fittings against freezing.
    C. Contractor shall make arrangements and pay all fees for temporary water connections and comply with federal, state and local codes and regulations and with utility company requirements.
    D. Temporary water (metered) usage shall be paid for by the Owner.

12. Temporary Heat, Ventilation, Cooling and Humidity Control: Bid Package # 31
    A. Prior to the building enclosure or a portion thereof, the Contractor shall install a heating system in readiness for furnishing temporary heat in said portion of the new structure immediately after enclosure or as requested by Construction Manger.
    B. Heating: After the building is completely enclosed, the HVAC contractor is responsible to maintain a minimum temperature of 40 degrees during rough-ins and 60 degrees during finishing operations.
    C. Cooling: After the building is completely enclosed, the HVAC contractor is responsible to maintain a minimum temperature and humidity of 80 degrees during rough-ins and 80 degrees and 60% relative humidity during finishing operations.
    D. Temporary heat (metered) usage shall be paid for by the Owner.

13. Temporary Electric: Bid Package # 31
    A. Contractor shall make arrangements for, and shall install, the temporary electric service for use on this project, including poles, transformers, panels, metering and other requirements, and shall remove this service when directed by the Construction Manager.
    B. Contractor shall provide temporary service and hookup to the Construction Manager's trailer.

C. Within the building, the Contractor shall provide, until substantial completion, all wiring, switches, sockets, lamps and similar equipment required for temporary lighting. Temporary lighting shall be sufficient to enable all trades to complete their work and to enable the Architect and Construction Manager to check all work as it is being done.
D. Provide a minimum of one outlet for power tools, masonry saw and like tools for each 1,000 sq. ft. of floor space.
E. Temporary electric connections and installation shall be paid for by the installing contractor.
F. Temporary electric (metered) usage shall be paid for by the Owner.
G. Comply with federal, state and local codes and regulations and with utility company requirements.

CONSTRUCTION AIDS

14. Provide construction aids and equipment required by personnel and to facilitate the execution of the work: scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.

15. Removal: Shall be by each respective Contractor responsible for original installation. Restore permanent facilities used for temporary services to specified conditions. Clean and repair damage caused by installation or by use of temporary facilities. Grade areas of site affected by temporary installations to required elevations and slopes and clean area.

USE OF PERMANENT SYSTEMS

16. Temporary Use of Equipment:
    A. The permanent heating, plumbing and electrical equipment, when installed, may be used for temporary services, subject to the approval of the Architect and CM. Should the permanent systems be used for this purpose, the appropriate Contractor will pay for all temporary connections required. He shall also make any replacement requited due to damage, without cost.
    B. The responsible Contractor shall assume all costs of leaving the same in "as new" condition. Cost of fuel consumed during construction will be by the Owner. At the time of acceptance of the system by the Architect, all construction filters and other temporary items will be removed and replaced with new.
    C. The Owner will not assume payment on utilities until the temporary occupancy certificate has been issued for the building and the Owner has been notified to the begin placing the utilities in their name.
    D. All warranties will commence upon Substantial Completion of the Project for temporary use of equipment.

SECTION 01600
PROJECT AS-BUILT DOCUMENTS

1. Throughout progress of the work, each Contractor shall maintain an accurate As-Built of all changes in the Contact Documents.

2. As the work progresses on these contracts, As-Built changes on a set of As-Built Documents.

3. Each Contractor shall delegate the responsibility for maintenance of As-Built Documents to one person on the Contractor's staff as approved in advance by the CM.

4. Thoroughly coordinate all changes within the As-Built Documents, making adequate and proper entries on each page of specifications and each sheet is required to properly show the change. Accuracy of As-Builts shall be such that future search for items shown in the Contract Documents may reasonably rely on information obtained from the approved As-Built Documents. Make all entries within 24 hours after receipt of information.

5. The Architect/Engineer's approval of the current status of As-Built Documents will be a prerequisite of the CM and Architect/Engineer's approval of requests for progress payment and request for final payment under the Contract.

6. Prior to submitting request for final payment, submit the final As-Built Documents to the Architect through the CM for approval. Incomplete As-Built Drawings shall be cause to withhold final payment.

7. Use all means necessary to maintain the job set of As-Built Documents completely protected from deterioration and from loss and damage until completion of the work.

8. Immediately upon award and start of the job, identify one of the Documents with the title "As-Built Document - Job Set".

9. Preservation:
   a. Do not use the job set for any purpose except entry of new data and for review by the Architect/Engineer, until start or transfer of data to final As-Built Documents.
   b. Maintain the job set at the site of work.

10. When making entries on drawings use an erasable colored pencil (not ink or indelible pencil), clearly describe the change by note and by graphic line, as required. Date all entries. Call attention to the entry by a "cloud" around the area or areas affected. In the event of overlapping changes, different colors may be used for each of the changes.

SECTION 01600
PROJECT AS-BUILT DOCUMENTS

11. Final As-Built Documents:
The purpose of the final As-Built Documents is to provide factual information regarding all aspects of the work, both concealed and visible, to enable future modification of design to proceed without lengthy and expensive site measurement, investigation and examination. All final As-Built Drawings shall include all changes on Project by Addenda, ASI, and Change Order. All supplemental drawings shall be mounted on back of previous page.

12. If the As-Built Documents have been kept in good condition during progress of the work, and if entries are sufficient and orderly, thereon to the approval of the Architect/Engineer, the job set of those Documents will be accepted by the CM as final As-Built Documents for those Documents. If any such Document is not so approved by the CM, secure a new copy of that Document from the Architect/Engineer, paying the total charge for reproduction; carefully transfer the change data to the new copy and submit for approval of the CM and Architect/Engineer. (No Exceptions).

13. As-Built Document Submittal:
As-Built Drawings: As-Built drawings shall reflect changes to the work and its equipment.

Contractor shall maintain one complete set of blackline prints at the job site as As-Built drawings and shall As-Built thereon clearly and neatly, in colored pencil, changes as indicated above. These prints shall not be used for construction purposes and shall be kept current with the progress of the work.

14. Final Payment will not be released to Contractor until an acceptable set of As-Built Documents has been presented to the CM and Architect.

SECTION 01650
PROGRESS PAYMENT AND CONTRACT CLOSE-OUT DOCUMENTS

1. Immediately after award of the contacts, the CM shall send all Contractors and Material Suppliers payment request forms. A schedule of values shall be completed and returned to the CM and Architect for approval two weeks before any payment applications are submitted. Applications will not be reviewed until Schedule of Values is approved. All amounts on the schedule of values shall be stated to the nearest dollar.

2. Payment applications will be accepted only on a copy of the forms supplied by the CM and enclosed in the Project Information Package, which will be sent to all Contractors and Material Suppliers immediately after award of the contracts.

3. Payments to the Contractors and Material Suppliers will be in accordance with Article No. 9 of the General Conditions.

4. When the Contractor considers the work to be substantially complete as outlined by the General Conditions of the Contract, the Contractor shall submit a written declaration of consideration to the Construction Manager along with a request for inspection. If, in the judgement of the Construction Manager, the request is justified the Architect will be notified in writing and an inspection scheduled.

5. The Construction Manager will then provide the Contractor with forms to be executed by the Contractor, the Surety Company, Subcontractors, Material Suppliers, and others, as deemed necessary by the contract.

6. The Architect, accompanied by the Construction Manager will conduct a review of the work. If the Architect considers the work to be substantially complete the Architect will complete a Certificate of Substantial Completion form and forward to the Owner, with a copy to the Construction Manager. The Owner may or may not conduct their own inspection.

   A list of any deficiencies and/or non-conforming work will be prepared and sent to the Contractor for corrections. The Contractor shall complete all punch list items within 30 (thirty) days after the Construction Manager reviews the substantial completion punch list. If the Contractor does not complete the punch list items within 30 (thirty) days, this shall be interpreted to mean the Contractor does not want to complete the punch list items, and the Contractor shall agree that the Owner will deduct from any monies remaining in the Contractor's contract an amount sufficient to obtain another contractor to complete the punch list items. When all items have been corrected, the Architect will then prepare a Certificate of Substantial Completion with copies being forwarded to the Owner, the Construction Manager, and the Contractor.

7. Upon receipt of the Certificate of Substantial Completion, the Contractor may make application for the balance of the amount due on the Contract less 5% retainage.

   When the Contractor judges the work to be near completion, a written declaration so stating shall be submitted to the Construction Manager accompanied by a list of outstanding items to be completed. The Construction Manager will promptly prepare a list of items to be

corrected prior to the request for final completion. Contractor's request for final inspection will not be considered until the Contractor's list of outstanding items and the Construction Manager's list has been completed.

9. When the Contractor judges the work to be at final completion, a written declaration so stating shall be submitted to the Construction Manager accompanied by the following documents:
   a. Consent of Surety Company to Final Payment
   b. Contractor's Affidavit of Debts and Claims
   c. Release and Waivers of Lien from Subcontractors and Material Suppliers to the extent required by the Owner
   d. Final "As Built" Drawings
   e. Operating and Maintenance Manuals
   f. Warranties and Guarantees
   g. Final Application for Payment
   h. Copy of the "Punch List" with all items dated and signed by the Contractor's on-site representative as being completed and/or corrected.

10. When all the above documents have been judged to be in order and forwarded to the Architect, a final inspection will be conducted by the Architect, accompanied by the Construction Manager. When the Architect finds that all work under the contract is completed and satisfactorily performed, the Architect will notify the Owner and Construction Manager in writing and certify the Contractor's final Application for Payment.

11. Release of Final Payment is contingent upon approval by the Owner, following their on-site review of the Project.

END OF PROGRESS PAYMENTS AND CONTRACT CLOSE-OUT PROCEDURES

SECTION 01700
CUTTING AND PATCHING

1. Each Contractor, or appropriate Subcontractor, is responsible for cutting, fitting, and patching required to complete the work, or to:
   a. Make its several parts fit together properly.
   b. Uncover portions of the work to provide for installation of ill-timed work.
   c. Remove and replace defective work.
   d. Remove and replace work not conforming to requirements of the Contract Documents.
   e. Remove samples of installed work as specified for testing.
   f. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.

2. Related requirements of other parts of the Project Manual:
   For basic responsibility of parties to the Contract, refer to the Condition of the Contract.

3. Submit written request to CM and Architect/Engineer well in advance of executing cutting or alteration which affects:
   a. Work of the Owner or separate contractor.
   b. Structural value or integrity of any element of the Project.
   c. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
   d. Efficiency, operational life, maintenance or safety of operational elements.
   e. Visual qualities of sight-exposed elements.

4. Request pursuant to Section 01700 (3) shall include:
   a. Identification of the Project.
   b. Description of affected work.
   c. Necessity for cutting, alteration or excavating.
   d. Effect on work of the Owner or any separate contractor, or on the structural or weather-proof integrity of the Project.
   e. Description of proposed work;
      i. Scope of cutting, patching, alteration or excavating.
      ii. Trades who will execute work.
      iii. Products proposed.
      iv. Extent of refinishing.
   f. Alternatives to cutting and patching.
   g. Cost proposal, when applicable.
   h. Written permission of affected separate contractors.

5. Submit written notice to CM and Architect/Engineer designating date and time work will be uncovered.

6. Comply with specifications and standards for each specific product involved.

7. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.

8. After uncovering work, inspect conditions affecting installation of products, or performance of work.

9. Report unsatisfactory or questionable conditions to the Architect/Engineer in writing. Do not

proceed with work until the Architect/Engineer has provided further instructions.

10. Provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the work.

11. Provide devices and methods to protect other portions of the Project from damage.

12. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

13. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.

14. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.

15. Employ the original Installer or Fabricator to perform cutting and patching for :
    a. Weather-exposed or moisture-resistant elements.
    b. Sight-exposed finished surfaces.

16. Execute fitting and adjustment of products to provide finished installation to comply with specified products, functions, tolerances, and finishes.

17. Restore work which has been cut or removed; install new products to provide completed work in accord with requirements of Contract Documents.

18. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.

19. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
    a. For continuous surfaces, refinish to nearest intersection.
    b. For an assembly, refinish the entire unit.

SECTION 01710
CLEANING

1. Throughout the construction period, maintain the building and site in a standard of cleanliness as described in this section. This will apply to all Contractors and their subs.

2. CM will conduct daily inspections, and more often if necessary to verify the requirements of cleanliness are being met.

3. All Contractors or subcontractors shall provide all required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

4. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Architect/Engineer.

5. General Progress Cleaning
   a. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
   b. Do not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this work.
   c. At least weekly, and more often if necessary, completely remove all scrap, debris and waste material from the jobsite, including trash and garbage from lunches.
   d. Provide adequate storage for all items awaiting removal from the jobsite, observing all requirements for fire protection and protection of the ecology.

6. Site Progress Cleaning
   a. Daily, and more often if necessary, inspect the site and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage.
   b. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site, restack, tidy, or otherwise service all arrangements.
   c. Maintain the site in a neat and orderly condition at all times.

7. Structures Progress Cleaning
   a. Weekly, and more often if necessary, inspect the structures and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage and/or disposal.

   b. Weekly, and more often if necessary, sweep all interior spaces clean. "Clean" for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of handheld broom and reasonable effort.

   c. 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 all equipment and materials required to achieve the required cleanliness.

   d. Following the installation of finish floor materials, clean the finish floor daily (and more often if necessary) at all times while work is being performed in the space in

which finish materials have been installed. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from all foreign material which, in the opinion of the CM, may be injurious to the finish floor material.

8. Prior to completion of the work, remove from the jobsite all tools, surplus materials (except for surplus materials required to be turned over to the owner) and equipment.

9. Contractors failing to meet acceptable housekeeping requirements shall be charged for cleaning services arranged for by the CM. A deductive Change Order will be prepared.

SECTION 01900
LANGUAGE SPECIFIC TO INDIVIDUAL BIDS

1. This section of the specifications is the description of individual breakdowns for Bids to be submitted by Contractors and Material Suppliers.

2. All Bidders shall consult the General, Supplementary, and Special Conditions, all Plans, all Specifications and Addenda for items relating to their Bids.

3. Each individual Contractor will be responsible for the regrading or patching of areas disturbed by the processing of their work. The regraded areas shall be brought to proper subgrade or finish grade elevations depending on condition prior to the start of their work and properly compacted if required. Patched areas shall match pre-existing conditions. See Section 01700 "Cutting and Patching".

4. As provided by KRS 139.310 and Kentucky Administrative Regulation 103 KAR 26:070 (Contract Construction), each contractor is responsible for Kentucky Sales and Use Tax on all materials purchased and installed by the contractor or a third party hired by the contractor. For those bid packages identified as Supplier Only or Contractor/Supplier (containing bid breakout items), the sales and use tax is to be excluded only on those material items purchased by the Owner directly from the material supplier. If a contractor lists his own company as the supplier on those bid packages containing bid breakout items, the Owner will not issue a purchase order and exemption certificate. Accordingly, the sales and use tax on the materials used to fulfill the terms of the contract will be the liability of the contractor.

5. If a bidder bids a combination bid package which consists of **ALL** bid packages, Kentucky sales tax shall be included in bid

6. A Material Supplier is a person or organization who has a direct Purchase Order responsibility to the Owner. A Material Supplier cannot be an installing contractor. Purchase Order amount as bid will include all cost of delivery to the jobsite. Material Supplier assumes all responsibility for materials until delivery is accepted. Material Supplier will guarantee all materials furnished under a purchase order to be in accordance with the requirements of the contract documents. This guarantee shall extend through the construction period and one (1) year from the date of substantial completion of the project. ***Material Suppliers shall not require the Owner to complete any form of credit application.*** The designated Contractor or Subcontractor responsible for installation of Purchase Order material or equipment is to supervise and accept delivery, unload, handle, store, layout and install the items. Upon delivery, the designated contractor is to verify product suitability, quantity, quality and condition as soon as it can be ascertained and shall accept care, custody and control responsibility as if it were his own purchase. Any damage or loss after acceptance will be the responsibility of the designated contractor or subcontractor.

7. All Contractors and/or Material Suppliers other than the material suppliers providing breakout materials in accordance with Item #9 in this section will be required to execute and furnish Bonds as stated in the Project Manual in the amount of one hundred percent (100%) of the Contract or Purchase Order sum. This Bond shall be executed by a Surety Company authorized to do business in the State of Kentucky. The Bonding Company's premium shall be paid by the Contractor and/or Material Supplier. The Performance and Payment Bond shall include the name and Kentucky address of the Surety's resident agent or Attorney-in-Fact.

8. Protection of the Work of Others - Contractors shall consider protection of finished work of prime importance. Care shall be taken by Contractors not to damage completed work of other

contractors, and to provide adequate protection for their own completed work. Any Contractor moving men and/or transporting materials across floors, grades, roofs or other vulnerable surfaces and through existing areas, shall provide adequate surface protection to prevent damage to existing surfaces. Any cost of damages will be borne by the Contractor causing said damage at the cost of replacement by the Contractor who installed the original material.

9. The Contractor/Supplier or Supplier Only Bidder will provide with their bid a breakdown of major material items (excluding sales tax). This breakdown shall include description of the item, name of the manufacturer, name of the supplier and the amount of the supplier's quote. The Owner will issue a purchase order direct to the supplier for these materials.

   The Contractor shall also guarantee and warrant to the Owner that all described materials listed by the contractor in the breakdown (Section 00201) to be purchased directly by the Owner by purchase order shall fully conform to the requirements of the Contract Documents and that the quantity of such material is sufficient to complete this Bid Division. The Performance and Payment Bond required of the Contractor shall be in the combined amount of the materials designated in the bid to be acquired by Purchase Order by the Owner and all remaining items of cost specified in the respective Bid Division. Contractor will provide an invoice from the supplier to the Owner with Contractor's application for payment.

   If material is surplus or unneeded at the completion of the project, then either a credit to Owner for the value of the unused material shall be issued by a deductive change order to the related purchase order, or the Owner may choose to keep the material

10. The language of the bid divisions is designed to outline and define the work in general to be included in a particular bid division and to prevent overlapping and conflicting requirements within other bid divisions. No Bidder shall use the omission of any item from this language as a basis for a claim for additional cost when such item is specified and/or shown on the drawings to be a part of a complete and workable system.

11. It shall be the responsibility of the bidder to determine which Bid Division or combination of Bid Divisions the Bidder desires to bid.

12. **All Contractors shall review all drawings and specifications for any work that may be required whether specifically noted in a particular bid division or not.**

SECTION 01900

LANGUAGE SPECIFIC TO INDIVIDUAL BIDS

(CONTRACTOR / SUPPLIER)

BID PACKAGE: # 31

INCLUDED:

1. The requirements of all Division 0 and Division 1 Sections apply to this and all Contract Packages.
2. Furnish, install and warrant all work shown on the drawings and described in the following specification sections:

   014100 - STRUCTURAL SPECIAL INSTRUCTIONS
   020100 - SOIL EROSION & SEDIMENT CONTROL
   021400 - DEWATERING
   023000 - EARTHWORK
   033000 - CONCRETE WORK
   033001 - CAST IN PLACE CONCRETE
   033710 - COLUMN BASE GROUT
   048100 - UNIT MASONRY ASSEMBLIES
   051200 - STRUCTURAL STEEL
   107510 - SCOREBOARDS

3. Layout
4. Cleanup
5. Coordination with other trades
6. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH OTHER TRADES OF THE OVERALL FLOYD CENTRAL HIGH SCHOOL PROJECT.
7. CONTRACTOR IS RESPONSIBLE TO PROVIDE A COMPLETE TURN KEY SYSTEM.
8. CONTRACTOR IS RESPONSIBLE FOR ON SITE SUPERVISION OF THE FIRST EVENTS AT FOOTBALL & BASKETBALL
9. CONTRACTOR IS RESPONSIBLE FOR FIELD TESTING SCOREBOARDS.
10. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEIR OWN DUMPSTER FOR THE DURATION OF THERE WORK ONSITE.
11. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ELECTRICAL CONTRACTOR. NOTE DRAWINGS SHOWING ELECTRICAL CONNECTION LOCATIONS. THE DESIGN TEAM WILL BE ISSUING AN ADDENDUM DESCRIBING ELECTRICAL CONNECTIONS AND PATHWAYS.
12. CONTRACTOR IS RESPONSIBLE FOR PROVIDING SPECIAL INSPECTIONS AS REQUIRED FOR ALL WORK PERTAINING TO THIS BID PACKAGE.
13. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ENGINEERED STAMPED DRAWINGS AND PERMITS FOR THE SCOREBOARDS.
14. CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL WORK WITH THE FULL FLOYD COUNTY CENTRAL SCHOOL SCHEDULES
15. ALL WORK MUST BE COORDINATED WITH OTHER TRADES INVOLVED IN THE SCHOOL AND ATHLETIC COMPLEX PROJECTS
16. Additional info regarding the scope of work will be issued by addenda. However, contract shall include all conduit, conductors, fiber optic cabling, site pullboxes, disconnects, and all required terminations to manufacturer videoboard and electrical gear to complete the scope of work described below.

17. Football Field Scope:
18. Power for the football videoboard shall be routed from the Athletic Field House main electrical gear, underground to the videoboard location. A NEMA 3R disconnect shall be provided at the base of the videoboard. Breaker for videoboard has been provided in a separate contract. Control of the videoboard shall be done wirelessly from the football pressbox control board. An additional underground conduit path shall be provided from the football videoboard to the site communications pullbox located adjacent to the Athletic Field House. Fiber optic cabling shall be provided from the videoboard location to this pullbox and then utilize the existing 4" conduit path to the Main School Building MDF room. Fiber optic cabling shall be extended to the Media Arts Control Room located on the third floor of the Main School Building utilizing existing conduit/cable tray path and terminated to owner provided equipment in room 324B.

19. Baseball and Softball Field Scope:
20. Power for the baseball and softball scoreboards and timeclocks shall be routed from their respective pressboxes underground. A NEMA 3R disconnect shall be provided at the base of each scoreboard. Control of the scoreboards shall be done wirelessly from the respective pressbox control boards.
21.

BREAKOUT ITEMS:

CONDUIT
GROUT
MASONRY ACCESSORIES
STEEL
WIRE
EROSION CONTROL
MASONRY
SCOREBOARDS
STONE

SPECIAL INSTRUCTIONS:

1. Refer to Alternates Section 01030. It is the responsibility of the Bidder to determine if any alternates are applicable to their bid.
2. Review all pages of the plans and specifications to ensure coordination of your work with other trades.
3. **REFER TO THE FRONT OF SECTION 01900-LANGUAGE SPECIFIC TO INDIVIDUAL BIDS-ITEMS 1 THROUGH 11.**

Bidder is advised that all work to be performed will be governed solely by the plans, specifications and addenda. Bidder is directed to the above specification sections for technical information and any additional items of work involved. Special attention is directed to Section 01900, page 2, #11

SECTION 020100

SOIL EROSION AND SEDIMENT CONTROL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including but not limited to, General Conditions and Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION

A. Extent of sedimentation and erosion control systems work is indicated on the Civil Drawings and by requirements of this Section and all regulatory bodies having jurisdiction on this work.

1. See Civil Drawings for Erosion Control Notes and Details for additional information related to sedimentation and erosion control measures.

2. Implement and maintain the Erosion and Sedimentation Control Plan prepared for this project.

B. Contractor shall carry out construction operations in a manner that soil erosion and resulting turbid storm water runoff and sedimentation are minimized and to limit downstream property damage.

C. The Contractor shall apply for and obtain an approval of the KPDES Permit.

D. The Contractor shall be responsible to maintain a clean jobsite and prevent spills of any kind. Contractor shall have a pollution prevention plan in place.

E. The Contractor shall provide labor, equipment, tools, materials and services needed to protect the Waters of the Commonwealth. These measures may include but are not limited to construction entrances, tree protection fencing, inlet protection, silt fencing, temporary sediment basins and sediment traps, immediate placement of topsoil and stabilization, etc. The Contractor shall be solely responsible for any regulatory fines imposed for improper erosion control. Contractor is solely responsible to employ any other means and methods necessary to prevent sedimentation of wetlands and the Waters of the Commonwealth at his expense.

F. The practices of erosion control mandated on the Contract Drawings are a part of an agency approval having jurisdiction of these matters. It is the contractor's obligation to perform the work in accordance with governing agency requirements as shown and stated in the Contract Drawings and all associated permit documents. Deviation from the specified procedures is not permitted. Monitoring of the erosion problems throughout the course of the project shall be performed diligently, corrections and repairs shall be made immediately and appropriate notifications of problems recurring shall be made to the Architect/Engineer to seek a permanent solution.

G. All work shall be performed in accordance with the approved Erosion and Sediment Control Plan and the approved KPDES Permit issued for this project. All contractors

performing any earthmoving activity shall be made a co-permittee and the permits shall be displayed on site.

1.3 REFERENCES

A. The following references shall apply to work completed under this specification section except no payment provisions from these references shall apply to this contract. In the event of a conflict between the Civil Drawings, project specifications, and referenced specifications, the more stringent shall apply, at the decision of the Construction Manager.

1. Kentucky Department of Transportation (KDOT) Specifications

a. Section 212 – Erosion Control

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's technical data and installation instructions for all sedimentation and erosion control materials and products.

B. Permits: Contractor shall apply for all permits required for this work from all agencies and authorities having jurisdiction on this project and work. Contractor shall comply with and maintain all permits until the date of Substantial Completion after which the Contractor shall comply with all close-out requirements and activities required by all regulatory bodies.

PART 2 – PRODUCTS

2.1 MATERIALS

A. All materials shall be in accordance with the description herein and as shown or called out on the Drawings.

PART 3 – EXECUTION

3.1 PROCEDURES

A. Erosion and sedimentation control best management practices (BMPs) must be constructed, stabilized, and functional before general site disturbance within the tributary areas of those controls. Controls must be consistent with erosion control standards and specifications of the Kentucky Department of Environmental Protection Agency.

B. The Contractor shall schedule and conduct his operations to minimize erosion of soils and to prevent silting and muddying of wetlands, streams and irrigation systems. Construction of facilities and performance of the contract work, which will contribute to the control of erosion and sediment, shall be carried out in conjunction with earth work operations, or as soon thereafter as practicable. The area of bare soil exposed at any one time by contractor operations shall be kept to a minimum.

C. Prior to the suspension of construction operations for appreciable lengths of time, the Contractor shall shape the earthwork in a manner that will permit storm runoff with a minimum of erosion. Temporary erosion and sedimentation control measures such as berms, dikes, or slope drains, deemed necessary by the Construction Manager, shall be provided and maintained until permanent erosion control features are completed and operative. Temporary erosion measures will be considered as a subsidiary obligation of the Contractor during the course of his work.

D. The Contractor shall also conform to the following practices and controls:

1. Waste or disposal areas shall be located and constructed in a manner that will keep sediment from entering streams.

2. When work areas are located in or adjacent to drainage facilities, such areas shall be separated from the easement by a dike or other barrier to keep sediment from entering a drainage easement. Care shall be taken during the construction and removal of such barriers to minimize the siltation of adjacent drainage facilities or streams.

3. Pollutants such as fuels, lubricants, bitumen, raw sewage and other harmful materials shall not be discharged into storm sewers, streams, wetlands, or into natural or manmade channels leading thereto. Wash water or waste from concrete mixing operations shall not be allowed to enter live streams, or discharged in wetlands.

4. All applicable regulations of fish and wildlife agencies and statutes relating to the prevention and abatement of pollution shall be compiled within the performance of the contract.

5. Any area disturbed and left bare for seven (7) days or more shall have temporary seeding applied.

6. When drainage ways are crossed, they shall not be left blocked overnight if this blockage could cause siltation downstream, or flooding to adjacent property. All drainage ways shall be restored to existing conditions or improved as directed by the Architect/Engineer.

7. Dumping of excavated or spoil material into adjacent streams or on the banks of the stream where it may wash or slide into stream waters shall not be permitted.

8. Pumping of silt-laden water from trenches into streams or wetlands shall not be allowed.

9. All construction equipment shall be operated in such a manner as to prevent pollution of any streams.

10. Excavated material or new backfill shall not be stored between trenches and bodies of water; rather they shall be stored on the opposite side of the trench.

11. All restoration work shall proceed as the work progresses and not left until end of the project.

E. When it becomes necessary, the Construction Manager will inform the Contractor of unsatisfactory construction procedures and operations insofar as erosion control and water pollution are concerned. If the unsatisfactory construction procedures and operations are not corrected promptly, the Construction Manager may suspend the performance of the construction until the unsatisfactory condition has been corrected.

F. The Contractor is required to act with diligence and is responsible for the Erosion and Sediment Control Measures and the maintenance of erosion controls throughout the project duration. The Contractor is required to make inspections, observe erosion problems developing before they become out of control and make repairs to prevent further damage immediately, regardless of the cause for failure. All repairs are the responsibility of the Contractor, at his cost.

G. Minimum conditions: Whether or not control features are shown on drawings there shall be no earth disturbance of any kind without downstream protections in place. Minimum conditions if not otherwise specified shall include: 32" high standard silt fence at outer limits of disturbed areas along low side of disturbance where run-off flows, filter bags and or inlet protection surrounding filter stone at inlets, stone check dams at concentrated low area release points or within discharging drainage swales, 32" standard silt fence surrounding all stockpiles of any kind of soil including excess material stockpiles, temporary stockpiles not shown on plans, expanded areas of stockpiles shown on plans etc. Additional payment for minimum erosion controls not shown on plans will not be approved where disturbances are shown on plans or where the contractor revises the anticipated conditions of stockpiling, disturbance extent etc. for his own soil management or because site conditions require alternative treatments.

END OF SECTION

SECTION 021400

DEWATERING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope

The section provides specifications for dewatering systems and appurtenances to be used during construction. Groundwater is expected to be encountered in some areas on the project site and may vary from the depth shown on boring logs. Refer to boring logs on the drawings or in the geotechnical report.

B. Type

This specification covers the use of site sump pumping, well pointing, vertical sand drains, and deep well drainage systems.

1.02 QUALITY ASSURANCE

Before dewatering is commenced, the Contractor shall obtain the acceptance of the Construction Manager for the method, installation and details of the dewatering system he proposes to use. To that end, the Contractor shall submit to the Construction Manager plans setting forth the details of his proposed dewatering systems. The dewatering system plans shall be in sufficient detail to indicate sizes of pumps, piping, appurtenances, the ultimate disposal point for water and to permit the Construction Manager to judge the overall completeness and effectiveness of the proposed system.

The control of groundwater shall be such that softening of the bottom of excavations, or formation of "quick" conditions or "boils," does not occur. Dewatering systems shall be designed and operated so as to prevent removal of the natural soils.

The Contractor shall select the particular method of dewatering to be employed.

PART 2 - METHODS

2.01 GENERAL

The Contractor shall furnish, install, operate and maintain all machinery, appliances, and equipment to maintain all excavations free from water during construction, and shall dewater and dispose of the water so as not to cause injury to public or private property, or to cause a nuisance or menace to the public.

The dewatering system shall be installed and operated so that the groundwater level outside the excavation is not reduced to the extent which would cause damage or endanger adjacent structures.

The static water level shall be drawn down a minimum of 2 ft below the bottom of the excavation to maintain the undisturbed state of the foundation soils and to facilitate the placement of fill or backfill compacted to the required density.

SECTION 023000 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes all work; labor, machinary, disposal and replacement of unsuitable soil, removeal of rock and any materials encountered to plan bottom depth for all earthwork related items. These items shall include, but are not limited to, earthwork procedures for drives, parking lots, pavements, building foundations, footings, caissons, building slabs, utility trenches, etc. No change in the contract price will be considered for any materials encountered and/or required to be removed, or replaced to achieve the earthwork requirements. The following is a list of the items which are included as a part of this work:

1. Preparing subgrades for slabs-on-grade, walks, pavements, lawns, and plantings.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for slabs-on-grade.
4. Subbase course for concrete walks and pavements.
5. Base course for asphalt paving.
6. Subsurface drainage backfill for walls and trenches.
7. Excavating and backfilling trenches within building lines.
8. Excavating and backfilling trenches for buried mechanical and electrical utilities and pits for buried utility structures.
9. Excavating and backfilling for exterior storm drainage beyond the building limits.
10. Placement of topsoil as shown on the plans.

B. Related Sections include the following:

1. Division 1 Section "Unit Prices" for a schedule of unit prices.
2. Division 1 Section "Construction Facilities and Temporary Controls."
3. Division 2 Section "Site Clearing" for site stripping, grubbing, removing topsoil, and protecting trees to remain.
4. Division 2 Section "Lawnscaping" for finish grading, including placing and preparing topsoil for lawns and plantings.
5. Division 3 Section "Cast-in-Place Concrete" for granular course over vapor retarder.
6. Division 15 and 16 Sections for excavating and backfilling buried mechanical and electrical utilities and buried utility structures.

1.3 UNIT PRICES

A. Rock Measurement: Volume of rock actually removed, measured in original position, but not to exceed the following:

1. 24 inches (600 mm) outside of concrete forms other than at footings.
2. 12 inches (300 mm) outside of concrete forms at footings.
3. 6 inches (150 mm) outside of minimum required dimensions of concrete cast against grade.
4. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
5. 6 inches (150 mm) beneath bottom of concrete slabs on grade.
6. 6 inches (150 mm) beneath pipe in trenches, and the greater of 24 inches (600 mm) wider than pipe or 42 inches (1065 mm) wide.

B. Unit prices for rock excavation include replacement with approved materials.

1.4 DEFINITIONS

A. Backfill: Soil materials used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Layer placed between the subbase course and asphalt paving.

C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Layer supporting slab-on-grade used to minimize capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and subsequent disposal of materials removed.

1. Additional Excavation: Excavation below subgrade elevations as directed by Architect. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Bulk Excavation: Excavations more than 10 feet (3 m) in width and pits more than 20 feet (6 m) in either length or width.
3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

H. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 1 cu. yd. (0.76 cu. m) for bulk excavation or

3/4 cu. yd. (0.57 cu. m) for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:

1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch- (1065-mm-) wide, short-tip-radius rock bucket; rated at not less than 120-hp (89-kW) flywheel power with bucket-curling force of not less than 25,000 lbf (111 kN) and stick-crowd force of not less than 18,700 lbf (83 kN); measured according to SAE J-1179.
2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp (157-kW) flywheel power and developing a minimum of 45,000-lbf (200-kN) breakout force; measured according to SAE J-732.

I. Topsoil: ASTM D 5268, pH range of 5.5 to 7, 4 percent organic material minimum, free of stones 1 inch (25 mm) or larger in any dimension, and other extraneous materials harmful to plant growth.

1. Topsoil Source: Reuse surface soil stockpiled on the site. Verify suitability of surface soil to produce a topsoil meeting requirements and amend when necessary. Supplement with imported topsoil when quantities are insufficient. Clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth. Retain subparagraph above or below when satisfactory topsoil is not available on-site, or retain both as Contractor's option.

2. Topsoil Source: Amend existing surface soil to produce topsoil. Supplement with imported topsoil when required.

J. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

K. Subbase Course: Layer placed between the subgrade and base course for asphalt paving, or layer placed between the subgrade and a concrete pavement or walk.

L. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

M. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.5 SUBMITTALS

A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and backfill.

2. Laboratory compaction curve according to ASTM D 698 for each on-site or borrow soil material proposed for fill and backfill.
3. All reports are to be signed by a Professional Engineer with licences to practice in the state of this project.

1.6 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.

B. Preexcavation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

C. Codes and Standards: Perform excavation work in compliance with aplicable requirements of authorities having jurisdiction. Prepared aggregate subbase shall comply with the Kentucky Transportation Cabinet (KTC) standard specifications, latest edition and with the local governing regulations, if more stringent than herein specified.

1.7 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Architect not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.
3. Contact utility-locator service for area where Project is located before excavating.
4. Locate existing underground utilites in areas of excavation work. If utilites are indicated to remain in place, provide adequate means of support and protection during earthwork operations.
5. Should uncharted, or incorrectly charted, pipiing or other utilites be encountered during excavation, consult the utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilites in operation. Repair damaged utilites to the utility owner's satisfaction at no cost to the Owner.

B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, GC, SC and SM, or a combination of these group symbols; free of rock or gravel larger than 3

inches (75 mm) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

1. CL and CH with a dry density above 100, a Liquid Limit less than 50 and a Plastic Index under 35 will also be considered satisfactory.

C. Unsatisfactory Soils: ASTM D 2487 soil classification groups ML, MH, OL, OH, and PT, or a combination of these group symbols.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

2. CL and CH with a dry density below 100, a Liquid Limit greater than 50 and a Plastic Index greater than 35 will be considered for use only by recommendation by the Geotechnical Engineer. Additional requirements for use of these types of soil may be required.

D. Backfill and Fill: Satisfactory soil materials.

E. Subbase: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2- inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

F. Base: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch (38-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

G. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

H. Bedding: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

I. Drainage Fill: Washed, narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2- inch (38-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.

J. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch (25-mm) sieve and 0 to 5 percent passing a No. 4 (4.75-mm) sieve.

K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

B. Drainage Fabric: Nonwoven geotextile, specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:

1. Grab Tensile Strength: 110 lbf (490 N); ASTM D 4632.
2. Tear Strength: 40 lbf (178 N); ASTM D 4533.
3. Puncture Resistance: 50 lbf (222 N); ASTM D 4833.
4. Water Flow Rate: 150 gpm per sq. ft. (100 L/s per sq. m); ASTM D 4491.
5. Apparent Opening Size: No. 50 (0.3 mm); ASTM D 4751.

C. Separation Fabric: Woven geotextile, specifically manufactured for use as a separation geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:

1. Grab Tensile Strength: 200 lbf (890 N); ASTM D 4632.
2. Tear Strength: 75 lbf (333 N); ASTM D 4533.
3. Puncture Resistance: 90 lbf (400 N); ASTM D 4833.
4. Water Flow Rate: 4 gpm per sq. ft. (2.7 L/s per sq. m); ASTM D 4491.
5. Apparent Opening Size: No. 30 (0.6 mm); ASTM D 4751.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.

C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

3.3 EXPLOSIVES

A. Explosives: No explosives are to be used on this Project site.

3.4 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials. Geotechnical information is provided, however the Contractor may conduct additional tests to alleviate anticipated unknows at his desire and expense.

3.5 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch (25 mm). Extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
2. Excavation for Drainage Structures Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch (25 mm). Do not disturb bottom of excavations intended for bearing surface.

3.6 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated plans, elevations, and grades.

3.7 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

B. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches (300 mm) higher than top of pipe or conduit, unless otherwise indicated.

1. Clearance: 12 inches (300 mm) on each side of pipe or conduit.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. For pipes and conduit less than 6 inches (150 mm) in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
2. For pipes and conduit 6 inches (150 mm) or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.
3. Excavate trenches 6 inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.8 APPROVAL OF SUBGRADE

A. Notify Architect when excavations have reached required subgrade.

B. If Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

1. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

C. Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades.

D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect.

3.9 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill may be used when approved by Architect.

1. Fill unauthorized excavations under other construction or utility pipe as directed by Architect.

3.10 STORAGE OF SOIL MATERIALS

A. Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.11 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for record documents.
3. Inspecting and testing underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.12 UTILITY TRENCH BACKFILL

A. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

B. Backfill trenches excavated under footings and within 18 inches (450 mm) of bottom of footings; fill with concrete to elevation of bottom of footings.

C. Provide 4-inch- (100-mm-) thick, concrete-base slab support for piping or conduit less than 30 inches (750 mm) below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches (100 mm) of concrete before backfilling or placing roadway subbase.

D. Place and compact initial backfill of subbase material, free of particles larger than 1 inch (25 mm), to a height of 12 inches (300 mm) over the utility pipe or conduit.

1. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.

E. Coordinate backfilling with utilities testing.

F. Place and compact final backfill of satisfactory soil material to final subgrade.

G. Install warning tape directly above utilities, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.

3.13 FILL

A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.

B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

C. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.
3. Under steps and ramps, use engineered fill.
4. Under building slabs, use engineered fill.
5. Under footings and foundations, use engineered fill.

3.14 MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.15 COMPACTION OF BACKFILLS AND FILLS

A. Place backfill and fill materials in layers not more than 8 inches (200 mm) in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D 698:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches (300 mm) of existing subgrade and each layer of backfill or fill material at 98 percent. The moisture content shall be maintained between minus 3, plus 1 percent of the optimal moisture.
2. Under walkways, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill material at 95 percent. The moisture content shall be maintained between minus 3, plus 1 percent of the optimal moisture.
3. Under lawn or unpaved areas, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill material at 85 percent.

3.16 GRADING

A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1 inch (25 mm).
2. Walks: Plus or minus 1 inch (25 mm).
3. Pavements: Plus or minus 1/2 inch (13 mm).

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch (13 mm) when tested with a 10-foot (3-m) straightedge.

3.17 SUBSURFACE DRAINAGE

A. Subsurface Drain: Place a layer of drainage fabric around perimeter of drainage trench as indicated. Place a 6-inch (150-mm) course of filter material on drainage fabric to support drainage pipe. Encase drainage pipe in a minimum of 12 inches (300 mm) of filter material and wrap in drainage fabric, overlapping sides and ends at least 6 inches (150 mm).

1. Compact each course of filter material to 98 percent of maximum dry unit weight according to ASTM D 698.

B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches (300 mm) of final subgrade. Overlay drainage backfill with one layer of drainage fabric, overlapping sides and ends at least 6 inches (150 mm).

1. Compact each course of filter material to 98 percent of maximum dry density according to ASTM D 698.

2. Place and compact impervious fill material over drainage backfill to final subgrade.

3.18 SUBBASE AND BASE COURSES

A. Install separation fabric on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.

B. Under pavements and walks, place subbase course on separation fabric according to fabric manufacturer's written instructions and as follows:

C. Under pavements and walks, place subbase course on prepared subgrade and as follows:

1. Place base course material over subbase.
2. Compact subbase and base courses at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557. The moisture content shall be maintained between minus 3, plus 1 percent of the optimal moisture.
3. Shape subbase and base to required crown elevations and cross-slope grades.
4. When thickness of compacted subbase or base course is 6 inches (150 mm) or less, place materials in a single layer.
5. When thickness of compacted subbase or base course exceeds 6 inches (150 mm), place materials in equal layers, with no layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick when compacted.

3.19 DRAINAGE COURSE

A. Under slabs-on-grade, install drainage fabric on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends. Place drainage course on drainage fabric and as follows:

B. Under slabs-on-grade, place drainage course on prepared subgrade and as follows:

1. Compact drainage course to required cross sections and thickness to not less than 98 percent of maximum dry unit weight according to ASTM D 698.
2. When compacted thickness of drainage course is 6 inches (150 mm) or less, place materials in a single layer.
3. When compacted thickness of drainage course exceeds 6 inches (150 mm), place materials in equal layers, with no layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick when compacted.

3.20 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.

B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.

C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.

D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. (186 sq. m) or less of paved area or building slab, but in no case fewer than three tests.
2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for each 100 feet (30 m) or less of wall length, but no fewer than two tests.
3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 150 feet (46 m) or less of trench length, but no fewer than two tests.
4. All column footings interior and along exterior wall shall be individually tested for acceptance for bearing capacity using the dynamic cone penatration.
5. The foundation wall footings shall be tested using the dynamic cone penatration test at an interval of not less than 30'.

E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.21 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Transport surplus satisfactory soil off the Owner's property.

1. Remove waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 02300

SECTION 033000 - CONCRETE WORK

PART 1 - GENERAL

1. Related Documents:

   A. Drawings and general provisions of Contract, including General and Supplementary Condition apply to work of this section.

2. Description of Work:

   A. The extent of concrete work shown on drawings.

   B. Concrete paving and walks are specified in Division 2

3. Quality Assurance:

   A. Codes and Standards: Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified.

      1. ACI 301 "Specifications for Structural Concrete ".

      2. ACI 318 "Building Code Requirements for Reinforced Concrete".

      3. ACI 117 "Standard Specifications for Tolerances for Concrete Construction and Materials."

      4. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".

   B. Concrete Testing Service: Employ, at Contractor's expense a testing laboratory acceptable to Architect to perform material evaluation tests, field cylinder tests and to design concrete mixes.

   C. Materials and installed work may require testing and retesting, as directed by Architect, at anytime during progress of work. Allow free access to material stockpiles and facilities. Tests, not specifically indicated to be done at Owner's expense, including retesting of rejected materials and installed work, shall be done at Contractor's expense.

4. Submittals:

   A. Product Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, waterstops, joint systems, curing compounds, dry-shake finish materials, and others as requested by Architect.

   B. Shop Drawings; Reinforcement: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required and openings through concrete structures.

   C. Samples: Submit samples of materials as specified and as otherwise requested by Architect, including names, sources and descriptions.

   D. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design test as specified.

   E. Material Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted by Architect. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds, specified

requirements.

PART 2 - PRODUCTS

1. Form Materials:

   A. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.

      1. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill-oiled an edge-sealed, with each piece bearing legible inspection trademark.

   B. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. All lumber used must be dressed on at least 2 edges and one side to insure a tight fit.

   C. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will impair subsequent treatments of concrete surfaces.

2. Reinforcing Materials:

   A. Reinforcing Bars (Rebar): ANSI/ASTM A 615, Grade 60, deformed.

   B. Steel Wire: ANSI/ASTM A 82, plain, cold-drawn, steel.

   C. Welded Wire Fabric (WWF): ASTM A 185, welded steel wire fabric (flat sheets).

   D. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI recommendations, unless otherwise acceptable.

   E. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

3. Concrete Materials:

   A. Portland Cement: ANSI/ASTM C 150, Type I, unless otherwise acceptable to Architect.

   B. Use one brand of cement throughout project, unless otherwise acceptable to Architect.

   C. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates form a single source for exposed concrete.

   D. Water: Potable.

   E. Air-Entraining Admixture: ASTM C 260.

   F. Calcium chloride not permitted.

   G. Mid-Range Water-Reducing Admixture: ASTM C494 Type A

4. Related Materials:

   A. Moisture Barrier: Provide moisture barrier cover over prepared base material for all slabs on grade. Use only materials with a permeance rating of less than 0.1 Perms when tested in accordance with ASTM E154, as follows:

      1. Refer to Specification Section 07 26 00 -UNDER-SLAB VAPOR RETARDER

   B. Chemical Hardener: Colorless aqueous solution containing a blend of magnesium fluosilicate and zinc fluosilicate combined with a wetting agent, containing not less than 2 lbs. of fluosilicates per gal.

   C. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.

   D. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.

      1. Waterproof paper.

      2. Polyethylene film.

      3. Polyethylene-coated burlap.

   E. Liquid Membrane-Forming Curing Compound: ASTM C 1315, Type 1, Class A.

      1. Provide a curing compound compatible with floor sealers and floor finishes in areas to receive sealer and finishes. See Division 9 and room finish schedule for type of floor sealer and finishes.

   F. Expansion Joint Material:

      1. Type F by Sonneborn for exterior slab conditions.
      2. Self-adhesive "VYCORE" by W.R. Grace(or approved equal) for all interior slab locations.

5. Proportioning and Design of Mixes:

   A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.

   B. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.

   C. Design mixes to provide normal weight concrete with the following properties, as indicated on drawings and schedules.

      1. 4000 psi 28-day compressive strength; 560 lbs. cement per cu. yd. minimum; W/C ratio, 0.45 max for interior slabs and 0.46 max for all other concrete. Flyash substitution is only permitted in the slabs with a 15% maximum content. Flyash substitution is not permitted in the foundations.
      2. Lean Concrete Fill under foundations (where required): 1500 psi 28-day compressive strength.

   D. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor

when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect before using in work.

E. Admixtures:

1. Use air-entraining admixture in exterior exposed concrete, unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having air content within following limits:

a. Concrete structures and slabs exposed to freezing and thawing or subjected to hydraulic pressure:

3% to 5% for maximum 1" aggregate.

b. Other Concrete:

2% to 4% air.

F. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows(these values can be exceeded by use of water-reducer, but ranges required before addition of water-reducer):

1. Ramps and sloping surfaces: Not more than 3".

2. Reinforced foundation systems: Not less than 1" and not more than 5".

3. Other concrete: Not less than 1" and not more than 5".

6. Concrete Mixes:

A. Job-Site Mixing: Mix materials for concrete in appropriate drum type batch machine mixer. For mixers of one cu. yd., or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released. For mixers of capacity larger than one cu. yd., increase minimum 1-1/2 minutes of mixing time by 15 seconds for each additional cu. yd., or fraction thereof.

B. Provide batch ticket for each batch discharges and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.

C. Ready Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.

1. Delete references for allowing additional water to be added to batch for material with insufficient slump. Addition of water to the batch will not be permitted.

D. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

1. When air temperature is between 85 degrees (F) and 90 degrees (F), reduce mixing and delivery time for 1-1/2 hours to 75 minutes, and when air temperature is above 90 degrees (F), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

1. Forms:

A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct

formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

B. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.

C. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

F. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

G. Form Ties: Factory-fabricated, adjustable-length, removable or snapoff metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.

1. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is at least 1-1/2" inside concrete.

2. Unless otherwise shown, provide form ties which will not leave holes larger than 1" diameter in concrete surface.

H. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

I. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

2. Placing Reinforcement:

A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

3. Joints:

A. Construction Joints: Locate and install construction joints, which are not shown on drawings, so as not to impair strength and appearance of the structure, as acceptable to Architect.

B. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.

C. Place construction joints perpendicular to the main reinforcement. Continue reinforcement across construction joints.

D. Control Joints: Saw cut joints as shown on the drawings. Joints to be sawn as soon as concrete is set sufficiently, but must be sawn the same day as the concrete is poured.

4. Installation of Embedded Items:

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto.

B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

5. Preparation of Form Surfaces:

A. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.

B. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturers instructions.

C. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

6. Concrete Placement:

A. Preplacement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete form coatings are not used.

B. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

C. General: Comply with ACI 304, and as herein specified. Deposit concrete continuously or in layers of such thickness that no concrete will placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.

D. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

E. Consolidate placed concrete by mechanical vibrating equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.

F. Do not use vibrators to transport concrete inside form. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

G. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

H. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.

I. Bring slab surfaces to correct level with straightedge and strikeoff. All interior slabs shall pitch to floor drains (if drains are indicated on Architectural or Mechanical or Structural Drawings). All exterior slabs shall drain away from the building and shall not pond any water. Do not set screeds off metal deck setting on steel beams. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.

J. Maintain reinforcing in proper position during concrete placement operations.

K. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

L. When air temperature has fallen to or is expected to fall below 40 degrees (F), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 degrees (F), and not more than 80 degrees (F) at point of placement.

M. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

N. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs. Non-chloride accelerators may be used if submitted and approved in the design mix.

O. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

P. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees (F). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing.

Q. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.

R. Wet forms thoroughly before placing concrete.

S. Use water-reducing retarding admixture (Type D) when required by high temperatures, low humidity, or their adverse placing conditions.

7. Finish of Formed Surfaces:

A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chopped off.

B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, painting or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.

C. Smooth Rubbed Finish: Provide smooth rubbed finish to exposed concrete surfaces, which have received smooth form finish treatment, not later than one day after form removal.

D. Moisten concrete surfaces and rub with carborundum brick or other abrasive until a uniform color and texture is produced. Do not apply cement grout other than that created by the rubbing process.

E. Related Uniformed Surfaces: At tops of walls, horizontal offsets surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

F. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, paint or other thin film finish coating system. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in 10' when tested with a 10' straightedge. Grind smooth surface defects which would telegraph through applied floor covering system. If interior floor slab is "burnt / shiny", the slab shall be sanded, abraded, and in severe cases might require beed blast

G. Chemical-Hardener Finish: Apply chemical-hardener finish to interior concrete floors where indicated by the Architect on the Room Finish Schedule. Apply liquid chemical-hardener after complete curing and drying of the concrete surface. Dilute liquid hardener with water, and apply in 3 coats; first coat, 1/3-strength; second coat, 1/2-strength; third coat, 2/3-strength. Evenly apply each coat, and allow 24 hours for drying between coats.

1. Apply proprietary chemical hardeners, in accordance with manufacturer's printed instructions.

2. After final coat of chemical-hardener solution is applied and dried, remove surplus hardener by scrubbing and mopping with water.

8. Concrete Curing and Protection:

   A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

   B. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.

   C. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

   D. Curing Methods: Perform curing of concrete by moist curing, by moisture-retaining cover curing, by curing compound (only with specific approval for interior slabs), and by combinations thereof, as herein specified.

   E. Provide moisture curing by following methods.

      1. Keep concrete surface continuously wet by covering water.

      2. Continuous water-fog spray.

      3. Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.

   F. Provide moisture-cover curing as follows: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

   G. Provide curing compound to slabs as follows (only permitted by special approval):

      1. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuously operation by powerspray or roller in accordance with manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during period.

      2. Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid floor hardener, waterproofing, dampproofing, membrane roofing, flooring, painting, and other coatings and finish materials, unless otherwise acceptable to Architect. Coordinate with specified finishes and verify before application.

   H. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period of until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

   I. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by application of appropriate curing compound.

   J. Final cure concrete surfaces to receive liquid floor hardener or finish flooring by use of moisture-retaining cover, unless otherwise directed.

   K. All control and expansion joints shall be cleaned and filled with a self-leveling sealant that

complies to ASTM C-920 and applied according to the manufacturers recommendations. The sealant shall be one of the following or an approved equal:

1) Sika - Sikaflex - 2c SL
2) Sonneborn - Sonolastic SL 1

9. Removal of Forms:

   A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of this work, may be removed after cumulatively curing at not less than 50 degrees (F) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

   B. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28 days. Determine potential compressive strength of in place concrete by testing field-cured specimens representative of concrete location or members.

   C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

10. Re-use of Forms:

   A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.

   B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Architect.

11. Inspection:

   Concrete shall not be placed over pipes, conduits, etc. until such work has been tested, inspected and approved. No concrete shall be deposited until the Architect has inspected the forms and placing of steel reinforcement and given permission to place concrete.

12. Notifying Other Trades:

   This Contractor shall notify the Mechanical and Electrical Contractors, and all other Contractors, at the proper time to install all conduits, pipes, pipe sleeves, anchors, or other equipment coming under their respective contracts in the form work.

13. Miscellaneous Concrete Items:

   A. Filling-In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

   B. Equipment Bases and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

14. Concrete Surface Repairs:

A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Architect.

B. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.

C. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

D. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on surface; and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.

E. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.

F. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope.

G. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, popouts, honeycomb, rock pockets, and other objectionable conditions.

H. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.

I. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.

J. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all round. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

K. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact dry-pack mixture in area continuously moist for not less than 72 hours.

L. Use epoxy-based mortar for structural repairs, where directed by Architect.

M. Repair methods not specified above may be used, subject to acceptance of Architect.

15. Quality Control Testing During Construction:

A. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.

1. Slump: ASTM C 143; one test for each concrete load at point of discharge; and one test for each set of compressive strength test specimens.

2. Air content: ASTM C 173; volumetric method for light-weight or normal weight concrete; ASTM C 231 pressure for normal weight concrete; one for each set of compressive strength test specimens.

3. Concrete Temperature: Test hourly when air temperature is 40 degrees (F) and below, and when 80 degrees (F) and above; and each time a set of compression test specimens made.

4. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.

5. Compressive Strength Tests: ASTM C 39; one set for each 100 cu. yds. or fraction thereof, of each concrete class placed in any one day or for each 5000 sq. ft. of surface area placed; 1 specimen tested at 7 days, 2 specimen tested at 28 days, and one specimen retained in reserve for later testing if required.

6. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.

7. When total quantity of a given class of concrete is less than 50 cu. yds., strength test may be waived by Architect if, in his judgement, adequate evidence of satisfactory strength is provided.

8. When strength of field-cured cylinders is less than 85 % of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

9. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive by more than 500 psi.

B. Test results will be reported in writing to Architect, Structural Engineer, Owner, and Contractor on same day that tests are made. Reports of compressive strength test shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.

C. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such test required, when unacceptable concrete is verified.

END OF SECTION 033000

SECTION 033001

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Integrally colored Portland cement concrete paving with imprinted pattern, stain and cure/sealer.

B. Integrally colored and color-hardened Portland cement concrete paving with imprinted pattern and stain/sealer treatments.

1.2 RELATED SECTIONS

A. Section

B. <MF SQ 023000 - Earthwork: Preparation of site for paving#31 20 00 - Earth Moving>.

C. Section 02740 - Asphaltic Concrete Paving: Asphaltic paving.

D. Section 02765 - Pavement Marking: Pavement marking.

E. Section 07920 - Joint Sealants: Sealant for joints.

1.3 REFERENCES

A. ACI 301 - Specifications for Structural Concrete for Buildings.

B. ACI 302 - Guide for Concrete Floor and Slab Construction.

C. ACI 303 - Guide to Cast-in-Place Architectural Concrete Practice.

D. ACI 305R - Hot Weather Concreting.

E. ACI 306R - Cold Weather Concreting.

F. ACI 308 - Standard Practice for Curing Concrete.

G. ACI 309 - Standard Practice for Consolidation of Concrete.

H. ACI 347 - Guide to Formwork for Concrete.

I. ACI 503 - Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive.

J. ASTM C33 - Standard Specifications for Concrete Aggregates.

K. ASTM C150 - Standard Specifications for Portland Cement.

L. ASTM C260 - Standard Specifications for Air-Entraining Admixtures for Concrete.

M. ASTM C309 - Standard Specifications for Liquid Membrane Forming Compounds for Curing Concrete.

N. ASTM C494 - Standard Specifications for Chemical Admixtures for Concrete.

O. ASTM C618 - Standard Specifications for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.

P. ASTM C881 - Standard Specifications for Epoxy-Resin-Base Bonding Systems for Concrete.

Q. ASTM A185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.

R. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

S. ASTM C94 - Standard Specification for Ready-Mixed Concrete.

T. ASTM C206 - Standard Specification for Finishing Hydrated Lime.

U. ASTM C233 - Standard Test Method for Air-Entraining Admixtures for Concrete.

V. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.

W. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.

X. ASTM C1059 - Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete.

Y. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.

Z. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

AA. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

BB. ASTM E329 - Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

CC. ASTM E548 - Standard Guide for General Criteria Used for Evaluating Laboratory Competence.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Testing:
   1. Perform testing and analysis under provisions of Section 01400.
   2. Submit proposed mix design for each class of concrete for review prior to commencement of work.
   3. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301.
   4. Four concrete test cylinders will be taken for each class of concrete placed each day.
   5. One slump test will be taken for each set of test cylinders taken.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications:

B. Installer Qualifications:
   1. The Installer shall provide a qualified foreman or supervisor who has a minimum of three years experience with imprinted and textured concrete, and who has successfully completed at least five Bomanite imprinted concrete installations of high quality and similar in scope to that required.
   2. The concrete is cast in place, on the job site, by trained and experienced workmen who shall be employed by a firm that is a licensed and certified Bomanite Imprint Franchise Partner
   3. Perform work in accordance with ACI 301, 302, 303.
   4. Obtain materials from same source throughout.

5. Conform to applicable codes and regulations for paving work performed within the public right of way.

C. Ready-Mixed Supplier Qualifications: Supplier of ready-mixed concrete products shall comply with ASTM C 94 requirements for production facilities and equipment. Supplier shall be certified according to NCRMA's "Certification of Ready Mixed Concrete Production Facilities Quality Control Manuals."

D. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.

E. Mock-Up: Provide field samples of surface colors textures and patterns specified for architect approval prior to beginning work, 48 inches by 48 inches (1219 mm by 1219 mm) in size illustrating paving finishes.
1. Finish areas designated by Architect.
2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

A. Do not place pavement when base surface or ambient temperature is less than 40 degrees F (4 degrees C) or if base surface is wet or frozen.

B. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

A. All materials manufactured are warranted to be of uniform quality within manufacturing tolerances.

B. Since control is not exercised over their use, no warranty, expressed or implied, is made as to the effects of such use. Bomanite Corporation's

obligation under this warranty shall be limited to refunding the purchase price of that portion of the material proven to be defective.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Bomanite Corp.,

B. Substitutions: Permitted.

C. Requests for substitutions will be considered, refer to Volume I Specifications.

2.2 SYSTEM

A. Supporting Structure:
   1. Mix Design:
      a. Mix and deliver concrete in accordance with ASTM C94, Alternate 2. Refer to Drawings for concrete strength requirements.
      b. Use accelerating admixtures containing no calcium chloride in cold weather only when approved by testing laboratory. Use of admixtures will not relax cold weather placement requirements.
      c. Use set retarding admixtures during hot weather only when approved by testing laboratory.
      d. Add air entraining agent to concrete mix for concrete work exposed to exterior, in amounts of 4 to 7 percent of total concrete volume or as otherwise recommended by testing laboratory.
      e. Add coloring admixture where scheduled in quantities recommended by coloring admixture manufacturer to achieve selected color.
      f. Add polypropylene fiber reinforcement at point of concrete batching at rate scheduled.
      g. Maintain water cement ratio to produce a minimum of 3 to maximum of 5 inch slump.
      h. Use of calcium chloride is strictly prohibited.
   2. Subbgrade:
      a. Refer to Section 02300 for subgrade preparation.
      b. Refer to drawings for scope of subgrade preparation.
   3. Reinforcement:
      a. Fiber Reinforcement: ASTM C948, collated, fibrillated, 3/4 inch (19 mm) long virgin polypropylene fibers, equal to BOMANITE Fibers by Bomanite Corporation.
      b. Reinforcing Steel: ASTM A615; Grade 60; deformed billet steel bars, uncoated finish.
      c. Welded Steel Wire Fabric: Plain type, ANSI/ASTM A185; in flat

sheets; uncoated finish.

B. Color:
   1. Integral Color:
      a. Integral Coloring Admixture: Integral Color by Bomanite Corporation, synthetic oxide pigment, meeting ASTM C979 and C494.
         1) Type A, cement dispersing/water reducing.
         2) Type D, set retarding/water reducing.
         3) Color to match Architect's sample.
   2. Color Hardener:
      a. Bomanite Color Hardener: The concrete shall be colored with Bomanite Color Hardener. Color(s) as scheduled. Refer to Drawings.

C. Tools Selection:
   1. Imprinting Tools:
      a. Mat type imprinting tools for texturing freshly placed concrete, in pattern/texture as selected by Architect or as scheduled.
      b. Imprinting tools used in the execution of this project shall be manufactured by Bomanite Corporation.
   2. Bomanite Patterns: Design(s) as scheduled. Refer to Drawings.
   3. Bomacron Textures and Patterns: Design(s) as scheduled. Refer to Drawings.

D. Release Agent Selection:
   1. Powdered Release Agent. Color(s) as scheduled. Refer to Drawings.
      a. Bomanite Release Agent.
   2. Liquid Release Agent. Clear color.
      a. Bomanite Liquid Release.

E. Secondary Antique or Coloration:
   1. Topical Stain: Color(s) as scheduled. Refer to Drawings.
      a. Bomanite Topical Stain.
   2. Chemical Stain: Color(s) as scheduled. Refer to Drawings.
      a. Bomanite Chemical Stain.

F. Cure Agent:
   1. Membrane Color Cure: Color(s) as scheduled. Refer to Drawings.
      a. Curing Compound: Meeting ASTM C309, water based emulsion.
         1) BOMANITE Color Cure by Bomanite Corporation.
         2) BOMANITE Clear Cure by Bomanite Corporation.
         3) BOMANITE Clear Cure Matte Finish by Bomanite Corporation.
   2. Silicate Cure & Densifier:
      a. The concrete shall receive a cure treatment utilizing Bomanite Con Shield.

G. Sealing and Finish Coatings:
   1. Colorwax by Bomanite Corporation.
   2. Hydrolock by Bomanite Corporation.
   3. VOC II by Bomanite Corporation.

2.3 RELATED MATERIALS

A. Cement: ASTM C150, type 1, Portland cement, gray color.

B. Fine and Coarse Aggregates: ASTM C33.

C. Water: Clean and not detrimental to concrete.

D. Form Material: Conform to ACI 301. If using metal, material shall be free from deformities. If using wood, use construction grade lumber, sound and free of warp, minimum 2 inches (51 mm) nominal thickness, except where short radii of curves require thinner forms.

E. Contraction Joint Devices: Galvanized sheet metal, keyed profile, with knock-outs for reinforcing and dowel steel.

F. Tie Wire: Annealed steel, minimum 16 gage (1.519 mm) size.

G. Dowels: ASTM A615; Grade 40, plain steel, uncoated finish.

H. Miscellaneous Reinforcing Accessories: Spacers, chairs, ties, and other devices necessary for properly placing, spacing, supporting, and fastening reinforcement in place.

I. Form release agent: As acceptable to concrete colorant manufacturer, non-staining, dissipative type.

J. Vapor Retarding Membrane: 10 mil (.2540 mm) reinforced polyethylene.

K. Air-Entraining Admixture: ASTM C 206. Air Entrained Concrete shall be used wherever concrete is exposed to the freezing weather. Proportions of entrained air, as determined by ASTM C233, and C260, shall be as follows:
   1. Aggregate: 3/8 inch (9.5 mm) maximum size aggregate 6-8 percent entrained air.
   2. Aggregate: 3/4 inch (19 mm) maximum size aggregate 5-7 percent entrained air.

L. Joint Fillers:
   1. Redwood Boards: Construction heart grade redwood, sound and free of checks, splits or other defects, 3/4 inch (19 mm) thick.
   2. Asphaltic Joint Filler: Asphalt impregnated fiberboard, ASTM D1751, 1/2 inch (12 mm) thick.
   3. Non-Asphaltic Joint Fillers: ASTM D1752, Type I.

M. Sealants: Two part polyurethane sealants, of grade as required to suit application, meeting ASTM C920, in manufacturer's custom colors.
   1. Urethane, SL grade, as specified in Section 07920.
   2. Urethane, SL-TB grade as specified in Section 07920.

N. Bonding-Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene rubber.

O. Epoxy-Bonding Adhesive: ASTM C 881, two component epoxy resin, capable of humid curing and bonding to damp surface, of class and grade to suit requirements if required, and as follows: Types I and II, non-load bearing, for bonding hardened of freshly mixed concrete to hardened concrete.

PART 3 EXECUTION

3.1 INSPECTION

A. Verify compacted subgrade is ready to support paving and imposed loads, free of frost, smooth and properly compacted.

B. Verify gradients and elevations of base are correct, and proper drainage has been provided so water does not stand in the area to receive paving.

C. Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

A. If vapor retarding membrane is not used, moisten base to minimize absorption of water from fresh concrete.

B. Notify Architect and testing laboratory, minimum 24 hours prior to commencement of concreting operations.

3.3 FORMING

A. Construct and remove forms in accordance with ACI 347.

B. Place and secure forms to correct location, dimension, and profile. Adequately brace to withstand loads applied during concrete placement.

C. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

D. Place joint fillers vertical in position, in straight lines. Secure to formwork during concrete placement.

3.4 INSERTS AND ACCESSORIES

A. Make provisions for installation of inserts, accessories, anchors, and sleeves.

B. Place vapor retarder continuously over subgrade. Overlap joints a minimum of 12 inches (305 mm) and seal with a joint tape of same permeance as sheeting material.

3.5 REINFORCEMENT

A. Accurately place reinforcement in middle of slabs-on-grade.

B. Discontinue every other bar of reinforcement at control and expansion joints.

C. Place reinforcement to achieve slab and curb alignment as detailed.

D. Steel shall be free of rust, mill scale, dirt and oil.

E. Provide doweled joints at interruptions of concrete with one end of dowel set in capped sleeve to allow longitudinal movement. Provide support at both ends of dowels.

F. Support reinforcing on bar chairs. Securely saddle tie at intersections. Rigidly secure in place to minimize displacement during concrete pour.

3.6 JOINTS

A. Intentional stoppage of concrete placing shall be at planned location of either an expansion joint or contraction joint.

B. When stoppage occurs at an expansion joint, install joint assembly with a bulkhead of sufficient section drilled to accommodate required dowels. Provide expansion joints at maximum 40 feet (12 m) o.c.e.w. in parking lots, 40 feet (12 m) o.c. for curbs and maximum 20 feet (6 m) o.c.e.w. at pedestrian paving.

C. When stoppage occurs at a contraction joint, install sheet metal joint assembly of sufficient section to prevent deflection, shaped to concrete section. Drill bulkhead to permit continuation of longitudinal reinforcing steel through construction joint.

D. Stoppage at Unintentional Location:
   1. Immediately upon unintended stoppage of concrete placing, place available concrete to a line and install bulkhead perpendicular to surface of pavement and at required elevation. Place and finish concrete to this bulkhead. Remove and dispose of concrete remaining on subgrade ahead of bulkhead.

2. When placing of concrete is resumed before concrete has set to extent that concrete will stand on removal of bulkhead, new concrete shall be rodded with the first; otherwise, carefully preserve joint face.
3. Provide a joint seal space at edges created by a construction joint of this type shall have a joint seal space as detailed on Drawings.

E. Provide sawed contraction joints in vehicular paving and curbs spaced as detailed on Drawings, but in no case greater than 20 feet (6 m) o.c. spacing.
1. Saw joints after completion of finishing operations as soon as concrete has hardened to extent necessary to prevent revealing of joint or damage to adjacent concrete surfaces.
2. Saw joints same day that concrete is placed except that sawing of joints in concrete placed late in day may be delayed until morning of following day.
3. In any event, saw joints within 18 hours after placing concrete.
4. Use a power-driven concrete saw made especially for sawing concrete and maintain in good operating condition.
5. Saw cut shall be to a depth equal to 1/4 of slab thickness, minimum one inch (25 mm) depth.
6. Align joints in vehicular paving with joints in adjacent pedestrian paving.
7. Cut joints through curbs at right angles to back of curb.

F. Place joint filler between paving components and building or other appurtenances.

G. Provide scored joints in sidewalks and plazas to a depth of 1/4 the slab thickness, and at intervals as indicated, but in no case spaced greater than width of walk.

3.7 PLACING CONCRETE

A. Place concrete in accordance with ACI 301, 302, and 304. Deposit concrete so that specified slab thickness will be obtained after vibrating and finishing operations. Minimize handling to prevent segregation. Consolidate concrete by suitable means to prevent formation of voids or honeycombs. Exercise care to prevent disturbance of forms and reinforcing and damage to vapor retarder. Place concrete to lines and levels shown, properly sloped to drain as designed.
1. Hot Weather Placement: ACI 305.
2. Cold Weather Placement: ACI 306.
3. Ensure reinforcement, inserts, embedded parts, and formed joints are not disturbed during concrete placement.
4. Place concrete continuously between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

B. After consolidating and screeding, float concrete to gradients indicated. Use

a straight edge to level and test surface in longitudinal direction to required grade. Finish edges to provide a smooth dense surface with 1/8 inch (3 mm) radius.

C. Apply Bomanite Color Hardener prior to application of pattern. Apply at rate recommended by manufacturer, evenly to the surface of the fresh concrete by the dry-shake method. Applied in two or more shakes, floated after each shake and troweled only after the final floating.

D. While concrete is still in its plastic state, apply the tool/texture pattern to the surface of the concrete. Properly tamp tools into the surface to achieve the required texture, with uniformity of pattern and depth of stamping. Utilize bond breaker to keep tools from sticking to fresh concrete.
   1. Release material shall be applied to the troweled surface prior to imprinting.

E. Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

F. Apply secondary stain treatment per approved mock-up or as scheduled to achieve design.

G. Apply finish sealer per approved mock-up or as specified to achieve design required.

3.8 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01400.

B. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.9 PROTECTION

A. Immediately after placement, protect concrete under provisions of Section 01500 from premature drying, excessive hot or cold temperatures, and mechanical injury.

END OF SECTION

SECTION 033710 - COLUMN BASE GROUT

PART 1 - GENERAL

1. Related Documents:

   A. The general provisions of the Contract, including General and Supplementary Conditions and Requirements, apply to the work specified in this section.

2. Related Work Specified Elsewhere:

   A. Structural steel base plates, anchoring devices and leveling shims: Section 05l20.

3. Delivery and Storage:

   A. Prevent damage to or contamination of non-shrink grouting materials during delivery, handling and storage.

   B. Store all non-shrink grouting materials in undamaged condition with seals and labels intact as packaged by the manufacturer.

   C. Non-shrink grout - Sonogrout - Sonneborn - Contech by Sonneborn Building Products Division or approved equal to be used under bearing plates.

4. Materials:

   A. Non-shrink grout conforming to the following requirements:

      1. Manufactured under rigid quality control specifically for grout used in transferring heavy loads.

      2. Contain metallic and non-metallic aggregates especially graded to minimize bleeding.

      3. Contain metallic aggregate that is ductile and capable of withstanding impact without fracturing.

      4. Have an initial setting time of approximately one hour at 70 degrees F.

      5. Produce no settlement or drying shrinkage at 3 days or thereafter.

      6. Have higher strength at all ages than plain cement grout of the same flowability.

      7. Resist attack by oil and water and have lower absorption than plain cement grout of the same flowability.

   B. Portland Cement: ANSI/ASTM C 150, Type I.

   C. Sand: ASTM C 33-71a, Fine Aggregate.

   D. Water: Potable.

   E. Pea Gravel: ASTM C33-/la. Coarse aggregate, graded so that at least 90 percent passes 3/8-inch sieve and 90 percent is retained by number 4 sieve.

5. Mixes:

   A. For less than 2-inch clearance, or where size or shape of space makes grouting difficult,

grout mix shall consist of grout material and water.

B. For greater than 2-inch clearances where coarse aggregate will not obstruct free passage of the grout, extend grout by adding 50 pounds of pea gravel per l00 pounds of grout material.

C. Use the minimum amount of water necessary to produce a flowable grout without causing either segregation or bleeding.

D. Portland cement mortar for raked-out edges of non-shrink grout: 1 part portland cement, 2 parts sand and 0.50 parts water by weight.

6. Mixing:

A. Mix non-shrink grouting materials and water in a mechanical mixer for no less than 3 minutes.

B. Mix grout as close to the work areas as possible and transport the mixture quickly and in a manner that does not permit segregation of materials.

C. After the grout has been mixed, do not add more water for any reason.

7. Procedures:

A. Installation methods and procedures shall be approved by the Engineer's representative before work is begun.

8. Surface Preparation:

A. Remove all defective concrete, laitance, dirt, oil, grease, and other foreign material from concrete surface by bush-hammering, chipping, or other similar means, until a sound, clean concrete surface is achieved.

B. Lightly roughen the concrete, but not enough to interfere with the proper placement of grout.

C. Cover concrete area with waterproof membrane until ready to grout.

D. Remove foreign materials from all steel surface in contact with grout.

E. Align, level, and maintain final positioning of all components to be grouted.

F. Take special precautions during extreme weather conditions according to the manufacturer's written instructions.

G. Immediately before grouting, remove waterproof membranes and clean any contaminated surfaces.

H. Saturate all concrete surfaces with clean water; remove excess water and leave none standing.

9. Placing:

A. Place non-shrink grouting material quickly and continuously by the most practical means permissable, pouring, pumping, or under gravity pressure.

B. Do not use either pneumatic-pressure or dry packing methods without written permission of the Architect.

C. Apply grout from one side only to avoid entrapping air.

D. Final installation shall be thoroughly compacted and free from air pockets.

E. Do not vibrate the placed grout mixture, or allow it to be placed if the area is being vibrated by nearby equipment.

F. Do not remove leveling shims for at least 48 hours after grout has been placed.

G. After shims have been removed, fill voids with plain cement-sand grout.

H. After the non-shrink grout has reached initial set, rake out all exposed edges approximately 1-inch into the grouted area and point with portland cement mortar.

I0. Curing:

A. Cure grout for 3 days after placing by keeping wet and covering with curing paper or by another approved method.

END OF SECTION 0337I0

SECTION 048100 - UNIT MASONRY ASSEMBLIES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SECTION INCLUDES

A. Concrete Block.

B. Clay Facing Brick.

C. Calcium Silicate Masonry Units

D. Common Brick.

E. Mortar and Grout.

F. Reinforcement and Anchorage.

G. Flashings.

H. Accessories.

1.03 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications: Loose steel lintels.

B. Section 061000 - Rough Carpentry: Blocking and nailing strips built into masonry.

C. Section 072100 - Building Insulation: Insulation for cavity spaces.

F. Section 078400 - Firestopping: Firestopping at penetrations of fire-rated masonry and at top of fire-rated walls.

G. Section 079200 - Joint Sealers: Backing rod and sealant at control and expansion joints.

1.04 PRICE AND PAYMENT PROCEDURES

A. See Division 01 - Allowances, for cash allowances affecting this section.

B. This allowance includes purchase and delivery of brick. Installation is not included in the allowance but is specified in this section and is part of the Contract Sum/Price.

1.05 REFERENCE STANDARDS

A. ACI 530/ASCE 5/TMS 402 - Building Code Requirements for Masonry Structures; American Concrete Institute International; 2008.

B. ACI 530.1/ASCE 6/TMS 602 - Specification For Masonry Structures; American Concrete Institute International; 2008.

C. ASTM A 82/A 82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement; 2007.

D. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2005.

E. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Con-

crete Reinforcement; 2007.

F. ASTM A 641/A 641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 2009.

G. ASTM C 55 - Standard Specification for Concrete Brick; 2006.

H. ASTM C 62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2005.

I. ASTM C 67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2007a.

J. ASTM C 73 - Standard Specification for Calcium Silicate Brick (Sand-Lime Brick); 2005.

K. ASTM C 90 - Standard Specification for Loadbearing Concrete Masonry Units; 2006b.

L. ASTM C 91 - Standard Specification for Masonry Cement; 2005.

M. ASTM C 129 - Standard Specification for Nonloadbearing Concrete Masonry Units; 2006.

N. ASTM C 140 - Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units; 2007a.

O. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar; 2004.

P. ASTM C 150 - Standard Specification for Portland Cement; 2007.

Q. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006.

R. ASTM C 216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale); 2007a.

S. ASTM C 270 - Standard Specification for Mortar for Unit Masonry; 2007a.

T. ASTM C 404 - Standard Specification for Aggregates for Masonry Grout; 2007.

U. ASTM C 476 - Standard Specification for Grout for Masonry; 2008.

V. ASTM C 744 - Standard Specification for Prefaced Concrete and Calcium Silicate Masonry Units; 2005.

W. ASTM C 780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2008a.

X. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete; 2005.

Y. ASTM C 1634 - Standard Specification for Concrete Facing Brick; 2006.

Z. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2006.

AA. ASTM E 514 - Standard Test Method for Water Penetration and Leakage Through Masonry; 2009

AB. IMIAWC (CW) - Recommended Practices & Guide Specifications for Cold Weather Masonry Construction; International Masonry Industry All-Weather Council; 1993.

AC. IMIAWC (HW) - Recommended Practices & Guide Specifications for Hot Weather Masonry Construction; International Masonry Industry All-Weather Council; current edition.

AD. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.06 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Convene a pre-installation meeting one week before starting work of this section; require attendance by all relevant installers.

1.07 SUBMITTALS

A. See Division 01 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.

C. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.08 QUALITY ASSURANCE

A. Comply with provisions of ACI 530/ASCE 5/TMS 402 and ACI 530.1/ASCE 6/TMS 602, except where exceeded by requirements of the contract documents.
   1. Maintain one copy of each document on project site.

B. Fire Resistive Ratings: Where indicated, provide materials and construction identical those of assemblies with fire-resistance ratings determined per ASTM E 119 by a testing and inspection agency, by equivalent concrete masonry thickness, or by another means, as acceptable to authorities having jurisdiction.

C. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product indicated.

D. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

1.09 MOCK-UP

A. Construct a masonry wall as a mock-up panel sized 8 feet (2.4 m) long by 6 feet (1.8 m) high; include dampproofing, mortar and accessories, structural backup, wall openings, flashings, wall insulation, and architectural precast concrete sill in mock-up.

B. Locate where directed.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Concrete Block: Type 1, Moisture controlled units, comply with referenced standards and as follows:
   1. Size: Standard units with nominal face dimensions of 16 x 8 inches (400 x 200 mm) and nominal depths as indicated on the drawings for specific locations.
   2. Special Shapes: Provide non-standard blocks configured for corners, lintels, control joint edges, and other detailed conditions. Provide bullnose units at exposed outside corners. Provide square corners at tile locations.
   3. Load-Bearing Units: ASTM C 90, normal weight, unless otherwise indicated.
      a. Hollow block, as indicated.
      b. Exposed faces: Manufacturer's standard color and texture where indicated on drawings.
   4. Exterior Exposed Load-Bearing Units: ASTM C 90, normal weight, unless otherwise indi-

cated.
a. Hollow block, as indicated.
b. Exposed faces: Special texture where indicated, as follows: ground face finish and split-face finish where indicated on drawings.
c. Type: Type I, moisture- controlled units
d. Integral Water Repellent: ASTM E514, water penetration/ leakage standards.
1) Liquid polymeric, integral water-repellent admixture that does not reduce flexural bond strength.
e. Color: As selected by Architect from manufacturer's full range of colors.
5. Non-Loadbearing Units: ASTM C 129.
a. Hollow block, as indicated.
b. Lightweight.

B. Concrete Brick:
1. For architectural and paver use, ASTM C 1634 (or ASTM C 55-03 Grade N), non-cored (solid), lightweight, unless noted otherwise.
2. For below grade use, ASTM C 1634 (or ASTM C 55-03 Grade N), lightweight, unless noted otherwise.
3. For other uses, ASTM C 55, lightweight.
4. Size: As indicated on drawings.

2.02 BRICK UNITS

A. Manufacturers:
1. Belden Brick Company: www.beldenbrick.com.
2. Boral Bricks, Inc: www.boralbricks.com.
3. Endicott Clay Products Co: www.endicott.com.
4. General Shale Brick: www.generalshale.com.

B. Facing Brick: ASTM C 216, Type FBS, Grade SW. Use where brick is exposed, unless noted otherwise.
1. Color and texture: As selected by Architect from manufacturer's full range.
a. Face brick allowance to be $700.00
2. Nominal size: As indicated on drawings.
3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.
a. Provide solid bricks matching indicated face brick color and manufacturer for exposed ends of soldier (corners) units.
4. Compressive strength: 3,000 psi (20.7 MPa), measured in accordance with ASTM C 67.

C. Building (Common) Brick: ASTM C 62, Grade SW; cored units. Use, substitute for facing brick, where brick is indicated for concealed locations, unless noted otherwise.
1. Actual size: To match size of facing brick.
2. Compressive strength: 3000psi (20.7 MPa) minimum average net area, measured in accordance with ASTM C 67.

2.03 CALCIUM SILICATE MASONRY UNITS

A. Manufacturers: Basis of Design: Arriscraft International, "Renaissance" (www.arriscraft.com).
1. Substitutions: Field Stone or Natural Limestone
2. Exterior Use: Units that comply with ASTM C73, Grade SW
3. Color and texture to match Architect's sample from manufacturer's full range of color and texture.
4. Size and Type: As noted on drawings with finish noted on drawings. Some units shall be of custom size to fit coursing/ banding indicated.

5. Special Shapes: Provide special shapes on exposed surfaces, such as for corner units, that cannot be produced by sawing. Sawed surfaces shall not be exposed to view. Provide thickness as indicated on drawings.

2.04 MORTAR AND GROUT MATERIALS

A. Masonry Cement: ASTM C 91, Type N; refer to Structural Drawings for additional requirements
   1. Colored mortar: Premixed cement, color as selected by architect from manufacturer's full range of colors.
   2. Acceptable product: Blue Circle Cement, Brixment-in-color, Lehigh Color Masonry Cement.

B. Portland Cement: ASTM C 150, Type I or Type II, except Type III may be used for cold weather construction; color as required to produce approved color sample.
   1. Not more than 0.60 percent alkali.

C. Hydrated Lime: ASTM C 207, Type S.

D. Mortar Aggregate: ASTM C 144.

E. Grout Aggregate: ASTM C 404.

F. Water: Clean and potable.

G. Accelerating Admixture: Nonchloride type for use in cold weather.

2.05 REINFORCEMENT AND ANCHORAGE

A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420) deformed billet bars; uncoated.

B. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated.

C. Single Wythe Joint Reinforcement: Truss or ladder type; ASTM A 82/A 82M steel wire, mill galvanized to ASTM A 641/A 641M, Class 3; 0.1483 inch (3.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods; width as required to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage on each exposure.

D. Multiple Wythe Joint Reinforcement: Truss or ladder type; fabricated with moisture drip; ASTM A 82/A 82M steel wire, hot dip galvanized after fabrication to ASTM A 153/153M, Class B; 0.1483 inch (3.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods; width as required to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage on each exposure.

E. Adjustable Multiple Wythe Joint Reinforcement: Truss type with adjustable ties or tabs spaced at 16 in (406 mm) on center and fabricated with moisture drip; ASTM A 82/A 82M steel wire, hot dip galvanized after fabrication to ASTM A 153/153M, Class B; 0.1875 inch (4.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods and adjustable components of 0.1875 inch (4.8 mm) wire; width of components as required to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from each masonry face.
   1. Vertical adjustment: Not less than 2 inches (50 mm).
   2. Seismic Feature: Provide lip, hook, or clip on extended leg of wall ties to engage or enclose not less than one continuous horizontal joint reinforcement wire of 0.1483 inch (3.8 mm) diameter.
   3. Insulation Clips: Provide clips at tabs or ties designed to secure insulation against outer face of inner wythe of masonry.

F. Strap Anchors: Bent steel shapes configured as required for specific situations, 1-1/4 in (32 mm) width, 0.105 in (2.7 mm) thick, lengths as required to provide not more than 1 inch (25 mm)

and not less than 1/2 inch (13 mm) of mortar coverage from masonry face, corrugated for embedment in masonry joint, hot dip galvanized to ASTM A 153/A 153M, Class B.

G. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from masonry face.
   1. Concrete frame: Dovetail anchors of bent steel strap, nominal 1 inch (25 mm) width x 0.024 in (0.61 mm) thick, with trapezoidal wire ties 0.1875 inch (4.75 mm) thick, hot dip galvanized to ASTM A 153/A 153M, Class B.
   2. Steel frame: Crimped wire anchors for welding to frame, 0.25 inch (6.3 mm) thick, with trapezoidal wire ties 0.1875 inch (4.75 mm) thick, hot dip galvanized to ASTM A 153/A 153M, Class B.

H. Wall Ties: Corrugated formed sheet metal, 7/8 inch (22 mm) wide by 0.05 inch (1.22 mm) thick, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not more than 1 inch (25 mm) and not less than 1 inch (25 mm) of mortar coverage from masonry face.

I. Two-Piece Wall Ties: Formed steel wire, 0.1875 inch (4.8 mm) thick, adjustable, eye and pintle type, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from masonry face and to allow vertical adjustment of up to 1-1/4 in (32 mm).

J. Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A 153/A 153M, Class B.
   1. Anchor plates: Not less than 0.075 inch (1.91 mm) thick, designed for fastening to structural backup through sheathing by two fasteners; provide design with legs that penetrate sheathing and insulation to provide positive anchorage.
   2. Wire ties: Manufacturer's standard shape, 0.1875 inch (4.75 mm) thick.
   3. Vertical adjustment: Not less than 3-1/2 inches (89 mm).

2.06 FLASHINGS

A. Rubberized Asphalt Flashing: Self-adhering polymer-modified asphalt sheet; 0.040 inch (1.0 mm) total thickness; with cross-linked polyethylene top and bottom surfaces.

B. Lap Sealant: Butyl type as specified in Section 079005.

2.07 ACCESSORIES

A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.

B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; Thickness Indicated x by maximum lengths available.

C. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
   1. Mortar Diverter: Panels designed for installation at flashing locations, 10-inch high.

D. Building Paper (Bond-Breaker Strips): ASTM D 226, Type I ("No.15") asphalt felt.

E. Weeps: Cotton rope.

F. Cavity Vents: Preformed aluminum vents with sloping louvers.

G. Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick, with anchors.

H. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.
   1. Solution of 1/2-cup (0.14L) dry measure tetra sodium polyphosphate and 1/2-cup (0.14-L) dry measure laundry detergent dissolved in 1-gallon (4-L) of potable water.

2.08 MORTAR AND GROUT MIXES

A. Mortar for Unit Masonry: ASTM C 270, using the Proportion Specification.
   1. Masonry below grade and in contact with earth: Type S.
   2. Exterior, loadbearing masonry: Type N.
   3. Exterior, non-loadbearing masonry: Type N.
   4. Interior, loadbearing masonry: Type N.
   5. Interior, non-loadbearing masonry: Type O.

B. Colored Mortar: Proportion selected pigments and other ingredients to match Architect's sample, without exceeding manufacturer's recommended pigment-to-cement ratio.

C. Grout: ASTM C 476. Consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches (50 mm) or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches (50 mm).

D. Mixing: Use mechanical batch mixer and comply with referenced standards.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION

A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COLD AND HOT WEATHER REQUIREMENTS

A. Comply with requirements of ACI 530.1/ASCE 6/TMS 602 or applicable building code, whichever is more stringent.

3.04 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units:
   1. Bond: Running, Unless noted otherwise.
   2. Coursing: One unit and one mortar joint to equal 8 inches (200 mm).
   3. Mortar Joints: Concave.

D. Brick Units:
   1. Bond: Running, Unless noted otherwise.
   2. Coursing: Three units and three mortar joints to equal 8 inches (200 mm).
   3. Mortar Joints: Concave.

E. Calcium Silicate Units:

1. Bond/ Pattern: Running, Unless noted otherwise.
2. Coursing: To permit continuous control/ expansion joints.
3. Mortar Joints: Concave.

3.05 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.

B. Lay hollow masonry units with face shell bedding on head and bed joints.

C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.

D. Remove excess mortar and mortar smears as work progresses.

E. Interlock intersections and external corners, except for units laid in stack bond.

F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

H. Cut mortar joints flush where wall tile is scheduled, resilient base is scheduled, or bitumen dampproofing is applied.

I. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.

J. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.06 WEEPS/CAVITY VENTS

A. Install weeps in veneer and cavity walls at 16 inches (400 mm) on center horizontally above through-wall flashing, above shelf angles and lintels, and at bottom of walls.

B. Install cavity vents in veneer and cavity walls at 48 inches (1200 mm) on center horizontally below shelf angles and lintels, near top of walls, and as indicated on drawings.

3.07 CAVITY MORTAR CONTROL

A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.

B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.

C. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.

3.08 REINFORCEMENT AND ANCHORAGE - GENERAL

A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches (400 mm) on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches (150 mm).

E. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches (400 mm) on center.

F. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches (900 mm) horizontally and 24 inches (600 mm) vertically.

3.09 REINFORCEMENT AND ANCHORAGE - SINGLE WYTHE MASONRY

A. Install horizontal joint reinforcement 8 inches (200 mm) on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches (150 mm).

E. Reinforce stack bonded unit joint corners and intersections with strap anchors 8 inches (203 mm) on center.

3.10 REINFORCEMENT AND ANCHORAGE - MASONRY VENEER

A. Install horizontal joint reinforcement 16 inches (400 mm) on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches (150 mm).

E. Masonry Back-Up: Embed anchors to bond veneer at maximum 16 inches (400 mm) on center vertically and 36 inches (900 mm) on center horizontally. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 8 inches (200 mm) on center.

F. Seismic Reinforcement: Connect veneer anchors with continuous horizontal wire reinforcement before embedding anchors in mortar.

G. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches (400 mm) on center.

3.11 REINFORCEMENT AND ANCHORAGES - CAVITY WALL MASONRY

A. Install horizontal joint reinforcement 16 inches (400 mm) on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of openings.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches (150 mm).

E. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Space anchors at maximum of 24 inches (600 mm) horizontally and 16 inches (400 mm) vertically.

F. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches (400 mm) on center.

3.12 MASONRY FLASHINGS

A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
   1. Extend flashings full width at such interruptions and at least 4 inches (100 mm) into adja-

cent masonry or turn up at least 4 inches (100 mm) to form watertight pan at non-masonry construction.
2. Remove or cover protrusions or sharp edges that could puncture flashings.
3. Seal lapped ends and penetrations of flashing before covering with mortar.

B. Extend plastic and laminated flashings to within 1/4 inch (6 mm) of exterior face of masonry.

C. Lap end joints of flashings at least 4 inches (100 mm) and seal watertight with mastic or elastic sealant.

3.13 LINTELS

A. Refer to Structural Drawings for Lintel Schedule, reinforcing and additional requirements.

B. Install loose steel lintels over openings, where indicated.

C. Install reinforced unit masonry lintels over openings where steel lintels are not scheduled.
1. Allow masonry lintels to attain specified strength before removing temporary supports.

D. Maintain minimum 8 inch (200 mm) bearing on each side of opening.

3.14 CONTROL AND EXPANSION JOINTS

A. Refer to Drawings for locations of indicated control and expansion joints. If not indicated, provide expansion and control joints as follows:
1. Exterior Walls: Control and expansion joints at 20-feet (6 m) on center.
2. Interior Walls (longer than 30-feet): Control joints at 20 to 30-feet (6 to 9 m) on center.

B. Do not continue horizontal joint reinforcement through control and expansion joints.

C. Form control joint as detailed.

D. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

E. Form expansion joint as detailed.

3.15 BUILT-IN WORK

A. As work progresses, install built-in metal door frames, window frames, anchor bolts, and plates and other items to be built into the work and furnished under other sections.

B. Install built-in items plumb, level, and true to line.

C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
1. Fill adjacent masonry cores with grout minimum 12 inches (300 mm) from framed openings.

D. Do not build into masonry construction organic materials that are subject to deterioration.

3.16 TOLERANCES

A. Maximum Variation from Alignment of Columns: 1/4 inch (6 mm).

B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch (1.6 mm).

C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft (6 mm/3 m) and 1/2 inch in 20 ft (13 mm/6 m) or more.

D. Maximum Variation from Plumb: 1/4 inch (6 mm) per story non-cumulative; 1/2 inch (13 mm) in two stories or more.

E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft (3 mm/m) and 1/4 inch in 10 ft (6 mm/3 m); 1/2 inch in 30 ft (13 mm/9 m).

F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft (3 mm/m).

G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch (6 mm).

3.17 CUTTING AND FITTING

A. Cut and fit for chases, pipes, conduit, sleeves, and grounds. Coordinate with other sections of work to provide correct size, shape, and location.

B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.18 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Division 01.

B. Clay Masonry Unit Tests: Test each variety of clay masonry in accordance with ASTM C 67 requirements, sampling 5 randomly chosen units for each 50,000 installed.

C. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C 140 for conformance to requirements of this specification.

D. Calcium Silicate Unit Tests: Test each variety of calcium silicate brick in accordance with ASTM C 73 for conformance to requirements of this specification.

E. Mortar Tests: Test each type of mortar in accordance with ASTM C 780, testing with same frequency as masonry samples.

F. **Where masonry units are exposed to view, provisions within ASTM C 216, ASTM C 129, ASTM C 90, and ASTM C 73 for finish and appearance are subject to Architect and Owner's final review and acceptance. Sample masonry walls will be field selected and approved at various stages of construction and finishing, including interior cmu walls. The approved masonry walls will be identified as basis of comparison for the remaining cmu walls. Upon review and acceptance by the Owner and Architect of the sample walls, all masonry walls will be subject to comparison to the approved sample masonry walls. Masonry walls not in compliance with the requirements herein are subject to removal, replacement, and/or repair. Where masonry walls are rejected, the contractor will submit remedial options for review and acceptance to the Owner and Architect.**

3.19 CLEANING

A. Remove excess mortar and mortar droppings.

B. Replace defective mortar. Match adjacent work.

C. Clean soiled surfaces with cleaning solution. Note: if masonry is dirt or mud stained, use cleaner approved by masonry manufacturer that will attack/ clean dirt.

D. Use non-metallic tools in cleaning operations.

3.20 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION

SECTION 051200 - STRUCTURAL STEEL

1. GENERAL:

   A. The general provisions of the Contract, including General and supplementary Conditions and General Requirements, apply to the work specified in this section.

2. RELATED WORK SPECIFIED ELSEWHERE:

   A. Grouting under base and bearing plates, Division 3.

3. FURNISHED BUT INSTALLED ELSEWHERE:

   A. Anchor bolts, loose bearing plates, which will be installed under Division 3.

4. REQUIREMENTS FOR REGULATORY AGENCIES:

   A. AISC Specification Structural Steel for Building shall mean AISC Specification for the Design, Fabrication and Erection of Structural Steel for Buildings, adopted June 22, 2010.

   B. Specification for Structural joints shall mean "Specifications for Structural Joints Using ASTM A 325 or A 490 Bolts, approved by the Research Council on Riveted and Bolted Joints of the Engineered Foundation, December 31, 2009.

   C. AWS Building Code shall mean AWS "Code for Welding in Building Construction", DI.1-96.

5. QUALIFICATIONS:

   A. **The supplier shall be the steel fabricator and the steel fabricator shall be AISC CATEGORY I plant certified, OR AWS SHOP CERTIFIED, OR** Employ an independent special inspection agency to verify the fabrication of all structural members. The cost of this shall be the sole responsibility of the Steel Fabricator. This inspection agency shall have AWS D1.1 qualifications, and be approved by the Engineer and Owner. The special inspection agency must submit reports of acceptance for all shop fabricated items as required in KBC-2013, sections 1704.2.5 and 1705.2. Any material sent to the site without a report of acceptance from the fabricator's special inspector will be inspected by the owner's special inspector. The cost of these additional tests will be deducted from the contractor's application for payment. If the lack of inspections from the fabricator persists, then owner's special inspector will be sent to the fabricator's shop daily to inspect all of the material for this project and the costs for these inspections will be deducted from the contractor's application for payment (NO EXCEPTIONS).

   B. Welding procedures, welders, welding operations and tackers shall be qualified in accordance with AWS Building Code.

6. SUBMITTALS:

   A. Shop Drawings:

      1. Submit shop drawings indicating all shop and erection details, including cuts, copes, connection, holes, threaded fasteners and welds.

      2. All welds, both shop and field shall be indicated by AWS "Welding Symbols" A2.0-68.

   B. Erection Procedure: Submit descriptive data to illustrate the structural steel erection procedure, including the sequence of erection and temporary staying and bracing.

   C. Welding Procedure: Submit written description as required to illustrate each welding

procedure to be performed in the specified work.

D. Field Welding Equipment: Submit descriptive data for field welding equipment, including type, voltage and amperage.

E. Reports of mechanical tests for high strength threaded fasteners.

7. PRODUCT HANDLING:

A. Delivery of materials to be installed under other sections:

1. Anchor bolts and other anchorage devices which are embedded in cast-in-place concrete or masonry construction shall be delivered to the project site in time to be installed before the start of cast-in-place concrete operations or masonry work.

2. Provide setting drawings, templates, and directions for the installation of the anchor bolts and other devices.

B. Storage of Materials:

1. Structural steel members which are stored at the project site shall be above ground on platforms, skids or other supports.

2. Steel shall be protected from corrosion.

3. Other materials shall be stored in a weathertight and dry place, until ready for use in the work.

4. Packaged materials shall be stored in their original unbroken package or container.

8. MATERIALS:

A. Steel Shapes, Bars, and Plates:

1. ASTM A992 (all W-shapes)

2. ASTM A 36.(all bars, plates, channels)

3. ASTM A 500, Grade B (Tube Columns).

4. ASTM A 53, Grade B (Pipe Columns).

B. Structural steel, fabrication and erection shall comply with the American Institute of Steel Construction, Specifications for the Design, Fabrication and Erection of Structural Steel for Building.

C. Anchor Bolts: Conform to Section 1C of ASTM A 307-68.

D. High-Strength Threaded Fasteners: ASTM A 325, **Torque Control** (Tension Set) bolts.

E. Filler Metals for Welding:

1. Shielded metal-arc welding: AWS A5.1, E70 Electrodes.

2. Submerged arc welding: AWS A5.17.

F. Shop Paint Primer:

1. Standard Primer: SSPC Paint System Guide No. 7.00.

G. All bolted connections shall be of high strength bolts conforming to ASTM A 325 and shall be bearing type with threads excluded from shear plane.

H. All structural steel shall be accurately set and properly secured in place. Field connections of steel work shall be welded or bolted with high strength bolts, size as called for on the drawings. Connections shall be as detailed. All welding to be done by certified welders with at least five years experience in structural welding, and in a neat workmanlike manner.

9. FABRICATION:

A. Fabricate Structural Steel in accordance with the AISC Specification with the modifications and additional requirements specified in this section:

1. Shop and field welding shall conform to AWS and AISC Standards and Specifications.

2. Flame cutting of steel will not be permitted.

B. Shop connections shall be welded.

C. Field Connections:

1. Provide bolted, except where welded connections are indicated.

2. High strength threaded fasteners shall be used for bolted connections, except where standard threaded fasteners are permitted.

D. High-Strength Bolted Construction Assembly:

1. Tightening shall be done in accordance with Section 5 of AISC-Specifications for Structural Joints. All bolts shall have 28,000 pounds of tension (330 ft*lbs torque) applied.

E. Welded Construction:

1. Welding process shall be limited to one or a combination of the following:

a. Manual shielded-arc

b. Submerged arc.

c. Studs to be welded with automatically timed welding equipment.

F. Column Bases shall be milled and attached to columns.

G. Shop Painting:

1. Shop paint all steelwork. All steel on site must be primed.

2. Steelwork to be painted shall receive a one-coat shop paint system in accordance with SSPC Paint System PS 7.01 Paint 14-64T.

3. Steel components are not to be labeled with permanent markings. All markings on the steel shall be primed and painted to match adjacent steel.

10. ERECTION:

A. Erect structural steel in accordance with the AISC Specifications with modifications and additional requirements of this section:

B. Column Bases and Bearing Plates:

1. Attached column bases and bearing plates for beams and similar structural members shall be aligned with wedges or shims.

2. Loose column bases and bearing plates which are too heavy to be placed without a derrick or crane shall be set and wedged or shimmed.

C. Erection Tolerances:

1. Individual pieces shall be erected so that the deviation from plumb, level and alignment shall not exceed 1 to 500.

D. Field Assembly:

1. Structural steel frames shall be accurately assembled to the lines and elevations indicated, within the specified erection tolerances.

2. The various members forming parts of a complete frame or structure after being assembled shall be aligned and adjusted accurately before being fastened.

3. Fastening of splices of compression members shall be done after the abutting surfaces have been brought completely into contact.

4. Bearing surfaces and surfaces which will be in permanent contact shall be cleaned before the members are assembled.

5. Splices shall be permitted only where indicated.

6. Field connections, field welds, and shear connectors shall be as specified in "Fabrication".

7. Erection bolts used in welded construction shall be tightened and left in place.

E. Gas Cutting: Field correcting of fabrication by gas cutting shall not be permitted on any major member in the structural framing without prior approval of the Architect.

11. TOUCH-UP PAINTING:

A. Immediately after erection, clean field welds, bolted connections, and abraded areas of the shop paint, and paint all exposed areas with the same material as used for shop painting. Apply brush or spray to provide a minimum dry film thickness of 2.0 mils.

END OF SECTION 051200

SECTION 014100– STRUCTURAL SPECIAL INSPECTIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Special inspections as defined in Section 1704 of The Kentucky Building Code are required.

B. The Inspection Agency shall conduct inspections under the supervision of a qualified professional engineer licensed in the State of Kentucky (Special Inspector).

C. Seismic Design Category for the structure is shown in the General Notes section of the structural drawings.

D. Special inspections are required for the following materials and work:

1. Inspection of Fabricators per Section 1704.2.5 of the Kentucky Building Code.
2. Steel Construction per Section 1705.2 of the Kentucky Building Code.
3. Concrete Construction per Section 1705.3 of the Kentucky Building Code.
4. Masonry Construction per Section 1705.4 of the Kentucky Building Code.
5. Prepared Fill per Section 1705.6 of the Kentucky Building Code.

1.3 SELECTION AND PAYMENT

A. The Inspection Agency shall be EMPLOYED by the owner . The Inspection Agency will be responsible for providing all Structural Special Inspection (including testing as listed herein) – scope of work may not be broken into separate contracts with multiple firms.

B. Special inspections are additional to testing and inspection requirements shown elsewhere in the specifications and on the drawings, which is to be paid for by the General Contractor and is not part of the SPECIAL INSPECTION services. The General Contractor shall also pay for additional structural testing and inspection required for his convenience. Inspection work not part of the Structural Special Inspections may be performed by an Inspection Agency of the Contractor's choosing, unless noted otherwise.

C. Costs for reinspection and retesting, should discrepancies be found, will be paid for buy the owner, as part of the Special Inspection Services, except where rework is due to negligence or omission deemed excessive by the Owner.

1. In case of excessive rework, such retesting and reinspection shall be paid for by the General Contractor as an additional service of the Inspection Agency.
2. In case of excessive waste/lost time of the Special Inspector due to inadequate scheduling by the General Contractor, such time shall be paid for by the General Contractor as an additional service of the Inspection Agency.

1.4 QUALITY ASSURANCE

A. Qualified Certification Authorities: Subject to compliance with Kentucky Building Code Requirements, Qualified Certification Authorities providing certification which may be applicable to Project include:

1. American Concrete Institute (ACI).
2. American Institute of Steel Construction (AISC).
3. American Welding Society (AWS).
4. National Institute of Certified Engineering Technology (NICET).
5. Steel Joist Institute (SJI).

B. Each inspector performing work on the Project shall be qualified to perform inspections for the particular type of construction or operation requiring special inspection by a Qualified Certification Authority as defined in the Kentucky Building Code. "Qualification" for purposes of this section shall mean a certified professional where certification in that jurisdiction exists. Subject to compliance with Kentucky Building Code requirements, Qualified Certification Authorities providing certification which may be applicable to Project include, but are not limited to, the following:

1. Steel Construction

   a. Material verifications, bolted connections, visual observation of welds – AWS Level 1.
   b. Steel frame connection details – Professional Engineer licensed in the State of Kentucky with experience in the design of building structures.

2. Concrete Construction

   a. Use of design mix – ACI Level 2.
   b. Material verifications, sampling of fresh concrete – NICET Level 1 (concrete).
   c. Reinforcing inspection – NICET Level 2 (concrete).

3. Soils and Rock Bearing Materials

   a. NICET Level 2 (soils).

C. Prior to any construction, Inspection Agency shall submit list of personnel who may provide inspection work on project. List shall include the name and certification level (qualification) of each inspector. List shall also include the name and

professional engineering registration number of the Special Inspector and the Professional Engineer with experience in the design of building structures.

D. The Inspection Agency shall carry professional liability insurance for errors and omissions to a minimum limit of $1,000,000 per occurrence and shall submit certificate of insurance along with the qualifications to the Architect and Engineer.

E. Special Inspector Qualifications: A professional engineer who is legally authorized to practice in the State of Kentucky and who is experienced in providing testing and inspection services of structure system types similar to this Project in material, design, and extent.

PART 2 – EXECUTION

2.1 PROGRESS MEETINGS

A. The Special Inspector shall attend any pre-construction meetings which may be conducted at the construction site by the Structural Engineer to discuss quality issues.

B. The Special Inspector shall attend construction progress meetings which will be held at the construction site by the Architect, Engineer, and General Contractor.

2.2 CONTRACTOR'S RESPONSIBILITIES

A. Coordinate with the Inspection Agency to provide inspection and testing services.

B. Provide a complete copy all structural shop drawings to the Structural Testing/Inspection Agency.

C. Arrange the preconstruction meeting to discuss quality issues.

D. Notify the Structural Testing/Inspection Agency sufficiently in advance of operations to allow assignment of personnel and scheduling of tests.

E. Cooperate with Structural Testing/Inspection Agency and provide access, including equipment with operator, to work. Access equipment includes, but is not limited to, man lifts, excavation equipment, etc.

F. Provide samples of materials to be tested in required quantities.

G. Provide storage space for Structural Testing/Inspection Agency's exclusive use, such as for storing and curing concrete testing samples. If required by Special Inspector, General Contractor shall provide cure box with electricity, water, and blankets for curing concrete specimens.

H. Provide labor to assist the Structural Testing/Inspection Agency in performing tests/inspections. Labor includes, but is not limited to, construction of masonry prisms, etc.

I. Neither the observation of the Architect/Structural Engineer in the administration of the contract, nor tests/inspections by the Testing/Inspection Agency, nor approvals by persons other than the Architect/Structural Engineer shall relieve the Contractor from his obligation to perform the work in accordance with the Contract Documents.

2.3 SPECIAL INSPECTOR'S RESPONSIBILTIES

A. Cooperate with the Contractor and provide timely service.

B. Notify Contractor of minimum advance notice for each type of inspection/test.

C. Upon arriving at the construction site, sign in and notify the Contractor of presence.

D. Select the representative samples that are to be tested/inspected.

E. Perform tests/inspections as outlined in Contract Documents, the applicable codes, and as directed by the Structural Engineer.

F. Keep records of all inspections.

G. Furnish inspection reports to the Architect, Structural Engineer, and General Contractor weekly as construction progresses.

H. Inform General Contractor and / or Fabricator of all discrepancies immediately for correction.

1. Document in writing correction of discrepancies.
2. Highlight discrepancies within the report.
3. If discrepancies are not corrected, the discrepancies shall be brought to the attention of the Code Official and the Structural Engineer prior to the completion of that phase of the work.

I. Leave copies of field notes with the Contractor prior to leaving the construction site. Field notes shall include the message given to the Contractor, date, time of message, name of Contractor's representative informed, type and location of work or materials tested/inspected, whether the work or materials complies with Contract Documents and name of the Structural Testing/Inspection Agency's representative.

J. Immediately notify General Contractor, Architect, and Structural Engineer by separate letter if work yet to be inspected is found on site that is either being covered by other work or was to receive continuous inspection.

K. Structural Testing/Inspection Agency shall not alter requirements of Contract Documents, approve or reject any portion of the work, or perform duties of the Contractor.

L. Submit a final report of inspections documenting completion of **all** required Special Inspections and correction of any discrepancies noted in inspections to the Structural Engineer. Final report shall be prepared by, sealed, and signed by the Special Inspector and shall include a complete list of materials and work inspected during the course of the project.

1. Submit one complete set of all special inspection reports to Structural Engineer of Record with final report of special inspections. Report set shall be bound, divided by construction type, and in chronological order.

2.4 INSPECTION OF FABRICATORS

A. Inspect the fabrication of structural load-bearing members where such work is being performed on the premises of the Fabricator's shop.

1. Fabricators shall be exempt from special inspection when a Qualified Certification Authority (as defined in section 1702 of The Kentucky Building Code) has periodically reviewed and approved Fabricator's written procedural and quality control manuals and fabrication practices. Subject to compliance with Kentucky Building Code requirements, Qualified Certification Authorities providing certification which may be applicable to Project include, but are not limited to, the following:

a. Structural Steel Fabricators – AISC or AWS certified.
b. Steel Joist Fabricators – SJI certified.

2. Fabricators exempt from special inspection shall submit a certificate of compliance to the structural engineer of record at the completion of fabrication stating that all work was completed in accordance with the approved construction documents.

B. Verify that the Fabricator maintains and review for completeness Fabricator's detailed fabrication and quality control procedures which provide a basis for control of the workmanship and ability to conform to the approved construction documents and reference standards.

C. Perform special inspections at Fabricator's shop as outlined in this specification for each type of construction.

2.5 INSPECTION OF STEEL CONSTRUCTION

A. Provide special inspection of the fabrication of steel structural elements and assemblies in accordance with the *Inspection of Fabricators.*

B. Verify that certification numbers on bolt, nut, and washer containers correspond to the identification numbers on mill test reports and that manufacturer's symbol and grade markings appear on all bolts and nuts. Also verify that bolts, nuts, and washers are being properly cared for at the site.

C. Verify that identification markings on structural steel members conform to ASTM standards specified on the approved construction documents.

D. Verify that identification markings on weld filler materials conform to ASTM standards specified on the approved construction documents. Also verify that weld filler material is being properly cared for.

E. Test and inspect high-strength bolted connections according to RCSC's "Specification for Structural Joints Using ASTM A325 or A490 Bolts."

1. Perform periodic inspection of bearing type connections.
2. Perform continuous inspection of slip-critical type connections.
3. Verify that direct-tension indicator gaps comply with ASTM F 959, Table 2.
4. Verify that twist-off-type tension-control assemblies have been properly tightened.

F. Inspect and test welds during fabrication (where applicable) and erection of structural steel as follows:

1. Certify welders and conduct inspections and tests as required. Record types and locations of defects found in work. Record work required and performed to correct deficiencies.
2. Inspect all weld procedures and welders according to the requirements of AWS D1.1-2000.
3. Use non-destructive testing according to AWS D1.1-2000, Section 6.11, on all welds that appear to have excessive inclusions, porosities, cracks, and incomplete penetrations as described by AWS D1.1-2000, or have the questionable weld removed and rewelded.
4. Perform continuous non-destructive testing according to AWS D1.1-2000, Section 6.11, on all complete penetration and/or partial penetration groove welds and on all splices of main members where those splices are required.
5. Perform continuous inspection according to AWS D1.1-2000, Section 6.9 (visual inspection) on all multi-pass fillet welds and on all single-pass fillet welds larger than 5/16".
6. Perform periodic inspection according to AWS D1.1-2000, Section 6.9 (visual inspection) on all single-pass fillet welds smaller than 5/16" and on all floor, form, and roof deck welds.

G. Inspect all steel frame connection details for compliance with approved construction documents and approved steel erection shop drawings.

1. Verify completeness and construction of all bracing, stiffening, and connections.

2. Verify location, completeness and accuracy of all members.

2.6 INSPECTION OF CONCRETE CONSTRUCTION (including ICF walls)

A. Provide special inspection of the fabrication of concrete structural elements and assemblies in accordance with the *Inspection of Fabricators*.

B. Periodically verify the use of the proper design mix.

C. Verify use of proper grade and ASTM designation of reinforcing steels.

D. Perform periodic inspection on placement, spacing, clear cover, number, and splice lap lengths of reinforcing steel.

E. Monitor concrete quality by means of site and laboratory tests. The Inspection Agency is authorized to reject plastic concrete not conforming to specifications. Immediately inform the Contractor, the Architect and the Structural Engineer of inadequacies in concrete quality. Sampling and testing for quality control during concrete placement shall include the following:

1. Sampling Fresh Concrete: ASTM C 172.

    a. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
    b. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231, pressure method for normal weight concrete; one for each day's pour of each type of air-entrained concrete.
    c. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4 deg C) and below, when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.
    d. Compression Test Specimen: ASTM C 31; one set of four standard cylinders for each compressive-strength test, unless otherwise directed. Mold and store cylinders for laboratory-cured test specimens except when field-cured test specimens are required.
    e. Compressive-Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yd. plus additional sets for each 50 cu. yd. more than the first 25 cu. yd. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.

2. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.
3. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

4. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.
5. Test results will be reported in writing to Architect, Structural Engineer, ready-mix producer, and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the Project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-day tests and 28-day tests.

F. Perform continuous inspection of concrete placement to verify proper application techniques.

G. Perform periodic inspection of concrete curing procedures to verify maintenance of specified curing temperature, protection, and techniques.

H. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.

I. Additional Tests: The testing agency will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

2.7 INSPECTION OF MASONRY CONSTRUCTION

A. At onset of masonry construction and periodically thereafter, verify proportions of site-prepared mortar, construction of mortar joints, and location of reinforcement and connectors.

B. Perform periodic inspection to verify size and location of structural elements; type, size, and location of anchors, including anchorage to other structural elements, frames, and construction; and specified size, grade, and type of reinforcement.

C. Prior to each grouting operation, verify cleanliness of grout space, placement of all reinforcement and connectors, including lap splice lengths, and proportions of site-prepared grout.

D. Perform continuous inspection of grout placement to verify compliance with contract document provisions.

E. Perform periodic inspection of masonry curing procedures to verify maintenance of specified curing temperature, protection, and techniques.

F. Sample and test grout compressive strength according to ASTM C 1019 and the following:

1. Compression Test Sample: one set of three standard cube specimens for each compressive-strength test, unless otherwise directed. Mold and store cubes for laboratory-cured test specimens except when field-cured test specimens are required.
2. Compressive-Strength Tests: one sample for each day's grouting; one specimen tested at 7 days, one specimen tested at 28 days, and one specimen retained in reserve for later testing if required.

2.8 INSPECTION OF SOILS

A. Inspect the existing site soil conditions, fill placement, and load-bearing requirements for compliance with the recommendations of the approved geotechnical investigation report.

1. Where the site is specified to be undercut by the geotechnical investigation report, verify all existing uncontrolled fills have been removed from below applicable foundation elements to the specified depth.

B. Prior to placement of any engineered fill, determine that the site has been prepared in accordance with the recommendations of the approved geotechnical investigation report.

C. During placement and compaction of the engineered fill material, verify that the material being used, maximum lift thickness, and in-place dry density comply with the recommendations of the approved geotechnical report.

END OF SECTION 014100

SECTION 107510 - SCOREBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes: Exterior, electronic scoreboard including control center and other accessories for complete functional installation. Work to include all delegated design fir support framing structure and foundations.

B. Floyd Central High School – Specifications for complete supply of equipment and installation of Football Video Display and Scoreboard, Basketball Video Display and Scoreboards, Scorer's Table Basketball and Softball Scoreboards, Marquee.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM) Publications:
   1. ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.
   2. ASTM A6 – Steel Shapes
B. National Electrical Code (NEC).
C. Federal Communications Commission, Part 15 Rules & Regulations, EN60950-1, EN55022 & EN55024.
D. UL and C-UL Standard for Electric Signs
E. Refer to related specification Sections and attached drawings:
   1. Specification Sections:
      - 014100 – Structural Special Instructions
      - 020100 – Soil Erosion & Sediment Control
      - 023000 – Earthwork
      - 033000 - Concrete Work
      - 033001 – Cast-in-Place Concrete
      - 033710 – Column Base Grout
      - 048100 – Unit Masonry Assemblies
      - 051200 – Structural Steel

   2. Drawing Sheets:
      - C100
      - C101
      - C105
      - C201
      - C205
      - C212
      - C300
      - C302
      - SO.0
      - SO.1
      - A1.5
      - E3.4

   3. Geotechnical Report

1.3 SUBMITTALS

A. THE FOLLOWING MUST BE PROVIDED WITH THE BID:

1. Stamped drawings for the outdoor scoreboards including foundation and structural support design by KY Registered engineer.
2. Payment and performance bond of 5%, refer to Construction Manager's front end Bidding Documents.

B. Provide in accordance with Section 01 33 00 - Submittal Procedures:

1. To minimize the environmental impact of multiple paper copies, product installation prints, instructions and diagrams of manufacturer will be submitted in a paperless fashion. The end user shall receive all pertinent hard-copy documentation at delivery.
2. Product data for scoreboards, controls, and accessories shall include descriptions of control functions etc.
3. Installation drawings, face layout, dimensions, construction, electrical wiring diagrams, and method of anchorage. (Paperless when applicable).
4. Copy of guarantee required by Paragraph 1.5 for review by Architect. (Paperless when applicable).
5. Manufacturer's installation instructions. (Paperless when applicable).
6. Finish Samples.
7. Delegated design documents to comply with specifications and design criteria included in Contract Documents attached.

1.4 QUALITY ASSURANCE

A. Source limitation: All components including scoreboard, control center, control cable, and other accessories and installation hardware shall be products of a single manufacturer.

B. Manufacturer qualifications: Company specializing in manufacturing electronic scoreboards with 10 years minimum successful world-wide experience.

C. Scoreboards shall be designed for exterior installation with weatherproof housing and optical isolation circuitry to reduce potential damage from electrical storms.

D. Should service be necessary, specialized personnel shall not be required. Modular "plug and play" components will be housed in an internal protective enclosure.

E. Scoreboards and other electrical components shall be certified for use in United States and Canada by Underwriter Laboratories, (UL) Inc. and shall bear either UL or C-UL label only.

F. Scoreboards and other electrical components shall be electrically grounded in accordance with National Electrical Code (NEC), Article 600.

G. Scoreboard cabinetry and attachment shall meet or exceed the 2009 IBC standard of 150 mph wind loading.

H. All supporting structures and foundations shall be designed per current KBC Code requirements and design criteria included in Contract Documents.

1.5 GUARANTEE

A. Provide under provisions of Section 01 78 00 - Closeout Submittals: Guarantee to cover defects in materials and workmanship.
   1. 5 years parts and factory labor guarantee for scoreboards, [wired controls,] and accessories from invoice date.
   2. 2 years part and factory labor guarantee for wireless controls and receivers from invoice date.
   3. Lifetime telephone support.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. BASIS OF DESIGN: Nevco, Inc., 301 East Harris Avenue, Greenville, Illinois 62246; 800-851-4040; www.nevco.com.
   1. Dakttronics
   2. Fair Play
B. Approval to bid does not eliminate the requirement to meet all specifications as written.
D, Manufacturers approved to bid shall bid as an alternate to the basis of design and shall meet or exceed all specifications as written.

2.2 MATERIALS

A. Aluminum faces and perimeter frame: Fabricated from .050 minimum thickness, ASTM B221 aluminum sheet with reinforcement and slotted mounting brackets top and bottom.
B. Finish: Acrylic polyurethane paint. Color to be BLACK.
   1. Provide white striping to separate scoreboard features.
C. Brackets: Integrated universal bracket system.
D. Fasteners, anchors, and other exposed hardware: Corrosion resistant.
E. Electronics: Low voltage, solid state, 2-wire cable, multiplex system, quartz crystal controlled.
F. Provide gold plated electrical contacts on interconnecting wiring to reduce corrosion and improve reliability.
G. Provide optical communication circuitry to reduce threat of damage from electrical storms and ESD.
H. LED (light emitting diode) units: Seven-bar, segmented digits with protective aluminum cover, rated typical life 100,000 hours and be designed to provide excellent visibility from all angles and sides.
I. Junction boxes where required complying with NEMA standards.
J. Gasketed Digits: Digit faces shall contain an integrated seal to guard against moisture intrusion.

2.3 FOOTBALL SCOREBOARD / VIDEO DISPLAY / ACCESSORIES

2.4.1 SCOREBOARD

A. Type: Exterior, electronic, multi-sport football/track/soccer scoreboard with integral horn and LED displays for time, scores, period, ball on, down, yards to go, ball location and time outs left; Model 7620 as manufactured by Nevco.
   1. Size: [32 feet long x 8 feet high x 8 inches deep.] [9.75 m long x 2.44 m high x 20 m deep.
   2. Approximate weight: [822 pounds] [374 kg].
   3. White on black [6 inches] [152 mm] high: "T.O.L." for time outs left.
   4. White on black changeable [15 inches] [381 mm] high:
      a. Basic: "HOME" and "GUESTS".
      b. Football: "PERIOD", "BALL ON", "DOWN", and "YDS TO GO".
   5. High intensity red or amber LED [24 inches] [610 mm] high digits:
      a. Displays: Scores, period, down, yards to go, ball location.
   6. High Intensity red or amber LED timing: Bi-directional. [30 inches] [762 mm] high digits.
      1) Track events: Up count with minutes and seconds separated by colon and seconds and 1/100th seconds separated by decimal.
      2) Football and soccer: Down count with minutes and seconds separated by colon. During final minute, 1/10th seconds are displayed separated by decimal.

7. High intensity red or amber LED [18 inches] [457 mm] high digits: Time outs left. Owner to select color.
8. High intensity red or amber LED ball possession or hit/run indicators: One football shaped indicator per team.
9. Provide optional conversion caption plates for these sports:
   a. Baseball: "INNING", "AT BAT", "OUT", "BALL", "STRIKE".
   b. Soccer: Two "SHOTS".
10. Power requirement: 120/240 volts, 3.8/1.9 amps, with ETN, 5.0/2.5 amps.
11. Scoreboard to be split apart into two different sections.

B. Provide each scoreboard or accessory with control cable of length required. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by

C. Electronic Team Names: On certain models "HOME" and "GUEST" caption plates will be replaced with programmable Electronic Team Names as manufactured by Nevco, Inc. Provision additional electrical connections as required in installation documents.
1. Specify changeable team names as ETN. Shall not require controller upgrade, use of additional accessories or computer.
2. Specify (R)ed or (A)mber ETN LED's (Example: 15xx ETN-R)

D. Delay of game timer set: Pair of electronic units displaying delay of game time with one unit installed at each end of field; Model DGT-6 as manufactured by Nevco, Inc.
5. Unit size: [4 feet x 4 feet x 8 inches] [1.2 m x 1.2 m x 203 mm].
6. Approximate hanging weight: [40 pounds] [18 kg].
7. LED displays: High intensity red or amber [30 inches] [762 mm] high digits capable of being set at 69 seconds or less and operated from hand-held switch connected to control center.
8. Power requirement: Each display, 120/240 volts, 0.6/0.3 amps.

F. Provide 4' x 32 Decorative Truss made of aluminum or steel.
1. Truss to be powder-coated in black.
2. Decorative Truss Logo 6.67' x 5'

G. Provide two 3' x 32' x 8" full depth aluminum signs with printed vinyl fronts.

H. Provide two 5.25' x 10.94' x 8" full depth aluminum signs with printed vinyl front.

2.3.2 VIDEO DISPLAY

A. Type: 160 x 288 pixel, Full Color, Fixed Pixel 20mm outdoor video display, featuring all aluminum modular construction, and front access for ease of service.
B. Shall include Video Processor and Live Feed Capability
C. Individual pixels shall be comprised of one (1) red, one (1) green, and one (1) blue individual LED in a cluster design.
D. Pixel pitch shall be no greater than 20mm center to center.
   a. "Virtual Pixels" and other specious designs are specifically excluded.
E. Active viewing area shall be no less than 10.94' x 18.88'
   a. Color Processing shall be 20 bits minimum (16 bits color plus 4 bit brightness) when operated as message center.
   b. Color Temperature, 6500 – 9500 deg K (adjustable)
F. Viewing Angle: 140 degrees.
G. Contrast Ratio 2000:1 minimum.
H. Brightness 7000 Nits Minimum.

I. Colors: Minimum 16.7 million colors
J. LED life expectancy shall be 100,000 hours to 50% brightness degradation.
K. Sub-Module parts replacement shall include per-pixel filtering to simplify matching without use of additional software, or mechanical/electrical adjustments.
L. Power consumption: Avg. 10,260 Total Watts. Shall include automatic Power Factor Correction.
M. Voltage: 100 to 265 Volts AC.
N. Working Temperature -40 to +50C.
O. Frame Rate as message center, 30 frames per second; as video 60 frames per second.
P. Refresh rate>400 Hz
Q. Video input NTSC or PAL standard, via Composite (BNC), S-Video mini DIN. All other formats including Serial Digital Interface (SDI), High Definition Serial Digital Interface (HD-SDI) or HDMI available.
R. Includes complete control system processor for fully functional installation.
S. Provide "low cost" video control option.
T. Service access shall be from the front or rear.
U. Shall not require any regular scheduled maintenance such as filter cleaning or replacement. No external fans.
V. Mounting hardware for video components shall match hardware of other accessories or accoutrement to facilitate ease of installation.
W. Vendor shall supply lifting bracket and hardware for up to three modular components per lift.
X. UL Listed Product Manufactured by Nevco Inc.

2.3.3 VIDEO DISPLAY CONTROL SYSTEM

A. Control device shall be "Display Director" as manufactured by Nevco Inc.
B. PC Based device with Touchscreen interface supplied and installed by Nevco.
C. User interface based on familiar Windows format allows operator to control any size LED display (and up to 50 displays simultaneously) supporting true HD resolutions and fascia ribbon displays thousands of pixels wide.
D. Simple Clip Server Format allows a user-defined filing system for customizable management of content.
E. Locally stored media is quickly distributed to all displays using a nimble Admin/client architecture with no latency
F. Software automatically scales source content to fit the display eliminating the need to re-create content or frame rates.
G. Stat Crew interface capable though RS232 feed integration
H. Automatically scales live video and feeds to fit the display. On board content to live video switch for quick change from content to video with no latency
I. Software allows for creation and storage of unlimited advertising playlists. Create sequences of up to 128 media entries.
J. Report generation for time, date and extent of advertising content to Excel
K. Supports a wide range of formats including (Video: MWV, MPG, AVI) (Images: JPEG, BMP, PNG with transparency)
L. Character generation, CG Overlays of Icons or Logos Included
M. HP L2206tm 21.5" touch screen monitor included

2.3.4 CONTROL CENTER

A. Type: Wireless, microprocessor based operator's control center designed to operate different models of scoreboard by interchange of keyboard overlay; Model MPCW7 as manufactured by Nevco Inc. Console will operate earlier scoreboards from Nevco Inc.
   1. Console: High impact, break-resistant black plastic with improved UV resistance. [11 x 9-1/2 x 4-1/8 inches] [279 x 241 x 105 mm].
   2. Features:
      a. Provide with LED displays, lithium cell battery backup to maintain

scoreboard memory and time of day, self test mode, power on-off switch, alternate time control, and multiple scoreboard operation.

b. Split and raised 40 key soft touch keyboard.
c. Keyboard shall be spill resistant.
d. Internal beeper acknowledging each entry
e. System Profiles feature set all parameters of operation including choice of controlled accessories and scoreboards.
f. Colorful graphic rich keyboard overlays for scoreboard or accessory.
g. Remote hand-held main time switch with programmable integral horn button.
h. [25 feet] [7.6 m] control cable with connectors.
i. Timer features: Time of day display, multiple time out timers with warning, interval horn, up-count auto stop with horn, 1/10th second display during last minute, changeable horn tone on scoreboards with the feature.
j. Segment timing for practice and workout.
k. Dimmer control for scoreboard.
l. MPC features shall be accessed through yes/no abbreviated questions in a drop down menu format.
m. Multiple receiver management shall be accomplished through direct keyboard input.
n. Electronic Team Names and automatic Electronic Caption Plates shall be controlled from MPC control without need to change overlays.

3. Power requirements: 120 volts, 12 watts, 50/60 Hz.
4. Provide option of battery supply for control operation if utility power not available.
5. Provide carrying case for control center, cable, and hand-held switch; Model CC-3 as manufactured by Nevco Inc.
   a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
   b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
6. Receiver WHEN ORDERED SEPARATELY;
   a. Sturdy impact resistant construction, [6 x 4 x 1.5 inches] [152 x 102 x 38 mm]
   b. Integrated antenna, mounted flush in scoreboard face. Protruding antennas shall not be used.
7. Maximum range: [1,000 feet] [305 m] from control center to receiver.
8. Receiver shall require no additional source of power or separate control cable.

B. Type: Handheld wireless, basic, AA battery operated, sport specific, control center with receiver unit mounted at scoreboard; Model MPCX as manufactured by Nevco. Control will have operability with earlier scoreboards from Nevco.

1. Unit shall comply with Part 15 of FCC Rules and Regulations.
2. Control unit: High impact, break-resistant black ABS plastic Size: 3-1/4" x 5-1/2" x 7/8" [80 x 140 x 20 mm].
3. Features:
   a. Wireless operation within [1000 feet] [305 m].
   b. Operate multiple scoreboards simultaneously.
   c. System allows multiple controllers to link to individual scoreboards.
   d. High visibility LCD display with a sealed keyboard.
   e. Long battery life with indicator; include two AA batteries.
   f. Single hand operation with a no slip grip.
   g. Built-in belt clip.
   h. Wireless signal strength meter and internal antenna.
4. Receiver: Injection molded case, [5-1/2 by 3-3/4 by 2 inches] [140 by 95 by 51 mm] mounted at scoreboard in accordance with instructions.
5. Maximum range: [1,000 feet] [305 m] from control center to receiver.
6. Power adapters: Provide for each scoreboard receiver.

a. Input: 120 volts, 0.4 amps, 50/60 Hz.
b. Output: 9 volts, 1.67 amps, 15 watts.

7. Provide carrying case for up to two control centers, Model CC-4 as manufactured by Nevco.
   a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
   b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
8. Provide suitable, RF transparent, NEMA 4 enclosure for receiver, to be located upon scoreboard supporting structure per installation diagrams.

2.5 BASEBALL SCOREBOARD

2.5.1 SCOREBOARD

A. Type: Exterior, electronic baseball scoreboard with LED displays for number of player at bat, balls, strikes, outs, hit, error, scores by inning, and totals for runs, hits, and errors; Model 1606 as manufactured by Nevco.
   1. Size: [24 feet long x 8 feet high x 8 inches deep.] [7.3 m long x 2.4 m high x 203 mm deep.]
   2. Approximate weight: [515 pounds] [234 kg].
   3. White on black captions:
      c. [15 inches] [381 mm] high: "HOME", "GUESTS", "AT BAT", "BALL", "STRIKE", "OUT", "H", and "E".
      d. [8 inches] [203 mm] high: Inning numbers "1" through "10", "RUNS", "HITS", and "ERRORS".
   4. High Intensity Red or Amber LED displays:
      a. [18 inches] [457 mm] high digits and letters: Player number at bat, balls, strikes, outs, hits, and errors.
      b. [14 inches] [356 mm] high digits: Scores by inning and totals for runs, hits, and errors.
      5. No single section of scoreboard will be larger than 5 x 12 ft to ease burden of installation.
      6. Power requirement: 456 Watts MAX w/ ETN's. 100-240 volts, AC 50/60 Hz. Including power factor correction. Requires earth ground accordance with NEC.
      7. Provide 4' x 24' Decorative Truss made of aluminum or steel .
         1. Truss to be powder-coated in black.
         2. Decorative Truss Logo 5.5' x 4'

2.5.2 ACCESSORIES

A. Provide each scoreboard or accessory with control cable of length required. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by others.

B. Electronic Team Names and Intelligent Captions: On certain models "HOME" and "GUEST" caption plates will be replaced with programmable Electronic Team Names as manufactured by Nevco. Certain other models include Intelligent Captions which change information in accordance with sport. Specify LED color.
   1. Specify changeable team names as ETN. Shall not require controller upgrade, use of additional accessories or computer.
   2. Specify (R)ed or (A)mber ETN LED's (Example: 16xx –A-ETN-A)

2.5.3 CONTROL CENTER

A. Type: Wireless, microprocessor based operator's control center designed to operate

different models of scoreboard by interchange of keyboard overlay; Model MPCW7 as manufactured by Nevco Inc. Console will operate earlier scoreboards from Nevco Inc.

1. Console: High impact, break-resistant black plastic with improved UV resistance. [11 x 9-1/2 x 4-1/8 inches] [279 x 241 x 105 mm].
2. Features:
   a. Provide with LED displays, lithium cell battery backup to maintain scoreboard memory and time of day, self test mode, power on-off switch, alternate time control, and multiple scoreboard operation.
   b. Split and raised 40 key soft touch keyboard.
   c. Keyboard shall be spill resistant.
   d. Internal beeper acknowledging each entry
   e. System Profiles feature set all parameters of operation including choice of controlled accessories and scoreboards.
   f. Colorful graphic rich keyboard overlays for scoreboard or accessory.
   g. Remote hand-held main time switch with programmable integral horn button.
   h. [25 feet] [7.6 m] control cable with connectors.
   i. Timer features: Time of day display, multiple time out timers with warning, interval horn, up-count auto stop with horn, 1/10th second display during last minute, changeable horn tone on scoreboards with the feature.
   j. Segment timing for practice and workout.
   k. Dimmer control for scoreboard.
   l. MPC features shall be accessed through yes/no abbreviated questions in a drop down menu format.
   m. Multiple receiver management shall be accomplished through direct keyboard input.
   n. Electronic Team Names and automatic Electronic Caption Plates shall be controlled from MPC control without need to change overlays.
3. Power requirements: 120 volts, 12 watts, 50/60 Hz.
4. Provide option of battery supply for control operation if utility power not available.
5. Provide carrying case for control center, cable, and hand-held switch; Model CC-3 as manufactured by Nevco Inc.
   a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
   b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
6. Receiver WHEN ORDERED SEPARATELY;
   a. Sturdy impact resistant construction, [6 x 4 x 1.5 inches] [152 x 102 x 38 mm]
   b. Integrated antenna, mounted flush in scoreboard face. Protruding antennas shall not be used.
   7. Maximum range: [1,000 feet] [305 m] from control center to receiver.
   8. Receiver shall require no additional source of power or separate control cable.

B. Type: Handheld wireless, basic, AA battery operated, sport specific, control center with receiver unit mounted at scoreboard; Model MPCX as manufactured by Nevco. Control will have operability with earlier scoreboards from Nevco.

1. Unit shall comply with Part 15 of FCC Rules and Regulations.
2. Control unit: High impact, break-resistant black ABS plastic Size: 3-1/4" x 5-1/2" x 7/8" [80 x 140 x 20 mm].
3. Features:
   a. Wireless operation within [1000 feet] [305 m].
   b. Operate multiple scoreboards simultaneously.
   c. System allows multiple controllers to link to individual scoreboards.
   d. High visibility LCD display with a sealed keyboard.

e. Long battery life with indicator; include two AA batteries.
f. Single hand operation with a no slip grip.
g. Built-in belt clip.
h. Wireless signal strength meter and internal antenna.

4. Receiver: Injection molded case, [5-1/2 by 3-3/4 by 2 inches] [140 by 95 by 51 mm] mounted at scoreboard in accordance with instructions.
5. Maximum range: [1,000 feet] [305 m] from control center to receiver.
6. Power adapters: Provide for each scoreboard receiver.
   a. Input: 120 volts, 0.4 amps, 50/60 Hz.
   b. Output: 9 volts, 1.67 amps, 15 watts.
7. Provide carrying case for up to two control centers, Model CC-4 as manufactured by Nevco.
   a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
   b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
8. Provide suitable, RF transparent, NEMA 4 enclosure for receiver, to be located upon scoreboard supporting structure per installation diagrams.

2.6 SOFTBALL SCOREBOARD

2.6.1 SCOREBOARD

A. Type: Exterior, electronic baseball scoreboard with LED displays for number of player at bat, balls, strikes, outs, hit, error, scores by inning, and totals for runs, hits, and errors; Model 1608 as manufactured by Nevco Scoreboard Company.
   1. Size: [18 feet long x 6 feet high x 8 inches deep.] [5.4 m long x 1.8 m high x 203 mm deep.]
   2. Approximate weight: [375 pounds] [234 kg].
   3. White on black captions:
      c. [10 inches] [254 mm] high: "HOME", "GUESTS", "AT BAT", "BALL", "STRIKE", "OUT".
      d. [8 inches] [203 mm] high: Inning numbers "1" through "9", "TOTAL".
   4. High Intensity Red or Amber LED displays:
      a. [18 inches] [457 mm] high digits and letters: Balls, strikes, outs.
      b. [14 inches] [356 mm] high digits: Scores by inning and totals for runs.
   5. Power requirement: 300 Watts MAX w/ ETN's. 100-240 volts, AC 50/60 Hz. Including power factor correction. Requires earth ground accordance with NEC.

2.6.2 ACCESSORIES

A. Provide each scoreboard or accessory with control cable of length required. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by others.

B. Electronic Team Names and Intelligent Captions: On certain models "HOME" and "GUEST" caption plates will be replaced with programmable Electronic Team Names as manufactured by Nevco. Certain other models include Intelligent Captions which change information in accordance with sport. Specify LED color.
   1. Specify changeable team names as ETN. Shall not require controller upgrade, use of additional accessories or computer.
   2. Specify (R)ed or (A)mber ETN LED's (Example: 16xx –A-ETN-A)

2.6.3 CONTROL CENTER

A. Type: Wireless, microprocessor based operator's control center designed to operate different models of scoreboard by interchange of keyboard overlay; Model MPCW7 as manufactured by Nevco Inc. Console will operate earlier scoreboards from Nevco Inc.
   1. Console: High impact, break-resistant black plastic with improved UV resistance. [11 x 9-1/2 x 4-1/8 inches] [279 x 241 x 105 mm].
   2. Features:
      a. Provide with LED displays, lithium cell battery backup to maintain scoreboard memory and time of day, self test mode, power on-off switch, alternate time control, and multiple scoreboard operation.
      b. Split and raised 40 key soft touch keyboard.
      c. Keyboard shall be spill resistant.
      d. Internal beeper acknowledging each entry
      e. System Profiles feature set all parameters of operation including choice of controlled accessories and scoreboards.
      f. Colorful graphic rich keyboard overlays for scoreboard or accessory.
      g. Remote hand-held main time switch with programmable integral horn button.
      h. [25 feet] [7.6 m] control cable with connectors.

i. Timer features: Time of day display, multiple time out timers with warning, interval horn, up-count auto stop with horn, 1/10th second display during last minute, changeable horn tone on scoreboards with the feature.
j. Segment timing for practice and workout.
k. Dimmer control for scoreboard.
l. MPC features shall be accessed through yes/no abbreviated questions in a drop down menu format.
m. Multiple receiver management shall be accomplished through direct keyboard input.
n. Electronic Team Names and automatic Electronic Caption Plates shall be controlled from MPC control without need to change overlays.

3. Power requirements: 120 volts, 12 watts, 50/60 Hz.
4. Provide option of battery supply for control operation if utility power not available.
5. Provide carrying case for control center, cable, and hand-held switch; Model CC-3 as manufactured by Nevco Inc.
   a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
   b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
6. Receiver WHEN ORDERED SEPARATELY;
   a. Sturdy impact resistant construction, [6 x 4 x 1.5 inches] [152 x 102 x 38 mm]
   b. Integrated antenna, mounted flush in scoreboard face. Protruding antennas shall not be used.
7. Maximum range: [1,000 feet] [305 m] from control center to receiver.
8. Receiver shall require no additional source of power or separate control cable.

B. Type: Handheld wireless, basic, AA battery operated, sport specific, control center with receiver unit mounted at scoreboard; Model MPCX as manufactured by Nevco. Control will have operability with earlier scoreboards from Nevco.

1. Unit shall comply with Part 15 of FCC Rules and Regulations.
2. Control unit: High impact, break-resistant black ABS plastic Size: 3-1/4" x 5-1/2" x 7/8" [80 x 140 x 20 mm].
3. Features:
   a. Wireless operation within [1000 feet] [305 m].
   b. Operate multiple scoreboards simultaneously.
   c. System allows multiple controllers to link to individual scoreboards.
   d. High visibility LCD display with a sealed keyboard.
   e. Long battery life with indicator; include two AA batteries.
   f. Single hand operation with a no slip grip.
   g. Built-in belt clip.
   h. Wireless signal strength meter and internal antenna.
4. Receiver: Injection molded case, [5-1/2 by 3-3/4 by 2 inches] [140 by 95 by 51 mm] mounted at scoreboard in accordance with instructions.
5. Maximum range: [1,000 feet] [305 m] from control center to receiver.
6. Power adapters: Provide for each scoreboard receiver.
   a. Input: 120 volts, 0.4 amps, 50/60 Hz.
   b. Output: 9 volts, 1.67 amps, 15 watts.
7. Provide carrying case for up to two control centers, Model CC-4 as manufactured by Nevco.
   a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
   b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
8. Provide suitable, RF transparent, NEMA 4 enclosure for receiver, to be located upon scoreboard supporting structure per installation diagrams.

2.7 BASKETBALL SCOREBOARDS / VIDEO DISPLAY / SCORERS TABLES / ACCESSORIES

2.7.1 Basketball Scoreboards

A. Provide two -Type: Interior, multi-purpose basketball/volleyball/wrestling electronic scoreboard with two integral horns, LED displays for time, scores, period, bonus, double bonus, and next possession arrows; Model 2700-NL (Non-Lit caption plates, base model) as manufactured by Nevco Inc. Rear-lit (RL) caption plates or Electronic Team Names (ETN) are optional and scoreboard shall be capable of in-the-field retrofit. Only LED lighting shall be used for rear-lit captions, incandescent lighting excluded. No captions shall be applied directly to the face of the scoreboard. All caption plates will be changeable and made of polyvinylchloride with vinyl lettering applied.

1. Size: [8 feet long x 3 feet high x 8 inches deep.] [2.4 m long x .9 m high x 203 mm deep.]
2. Approximate hanging weight: [71 pounds] [32 kg].
3. Large black and white captions providing maximum visibility:
   c. [6 inches] [152 mm] high:"Home", "Guests", and "period".
4. LED displays:
   d. Timing: Super Bright Red [13 inches] [330 mm] high digits.
   e. Team scores: Super Bright Amber [13 inches] [330 mm] high digits.
   f. Period: Super Bright Amber [9 inches] [229 mm] high digits.
   e. Next possession: Super Bright Amber arrow for each team.
   f. Include bonus and double bonus in the form of a [4 inch] [101 mm] Super Bright Red LED "B".
5. Rear-lit captions (when specified) shall require zero maintenance.
6. Provide Advertising /Team logo area 12" x 12" minimum.
7. Suspension mounting attachments will be included.
8. Power requirement: All options included: 126 Watts, MAX, 100-240 Volts AC w/Power Factor Correction.

2.7.2 ACCESSORIES/OPTIONS

A. Provide each scoreboard or accessory with control cable of length required. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by others.

B. Electronic Team Names: "HOME" and "GUEST" caption plates to be replaced with programmable Electronic Team Names as manufactured by Nevco Inc.
   1. Specify changeable team names as ETN. Shall not require controller upgrade, use of additional accessories, or computer.
   2. Specify (R)ed or (A)mber ETN LED's (Example: 27xx ETN-R)

C. Provide rear-lit caption plate option. Specify [RL]. (Model Example: 27xx-RL)

D. Provide for optional Team Name in place of "HOME" if NL/RL is selected.

E. Provide two 3' x 8' x 8" full depth aluminum signs with printed vinyl fronts.

2.7.3 CONTROL CENTER

A. Type: Wireless, microprocessor based operator's control center designed to operate different models of scoreboard by interchange of keyboard overlay; Model MPCW7 as manufactured by Nevco Inc. Console will operate earlier scoreboards from Nevco Inc.
   1. Console: High impact, break-resistant black plastic with improved UV resistance. [11 x 9-1/2 x 4-1/8 inches] [279 x 241 x 105 mm].
   2. Features:
      a. Provide with LED displays, lithium cell battery backup to maintain scoreboard memory and time of day, self test mode, power on-off switch, alternate time control, and multiple scoreboard operation.
      b. Split and raised 40 key soft touch keyboard.

c. Keyboard shall be spill resistant.
d. Internal beeper acknowledging each entry
e. System Profiles feature set all parameters of operation including choice of controlled accessories and scoreboards.
f. Colorful graphic rich keyboard overlays for scoreboard or accessory.
g. Remote hand-held main time switch with programmable integral horn button.
h. [25 feet] [7.6 m] control cable with connectors.
i. Timer features: Time of day display, multiple time out timers with warning, interval horn, up-count auto stop with horn, 1/10th second display during last minute, changeable horn tone on scoreboards with the feature.
j. Segment timing for practice and workout.
k. Dimmer control for scoreboard.
l. MPC features shall be accessed through yes/no abbreviated questions in a drop down menu format.
m. Multiple receiver management shall be accomplished through direct keyboard input.
n. Electronic Team Names and automatic Electronic Caption Plates shall be controlled from MPC control without need to change overlays.

3. Power requirements: 120 volts, 12 watts, 50/60 Hz.
4. Provide option of battery supply for control operation if utility power not available.
5. Provide carrying case for control center, cable, and hand-held switch; Model CC-3 as manufactured by Nevco Inc.
   a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].
   b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.
6. Receiver WHEN ORDERED SEPARATELY;
   a. Sturdy impact resistant construction, [6 x 4 x 1.5 inches] [152 x 102 x 38 mm]
   b. Integrated antenna, mounted flush in scoreboard face. Protruding antennas shall not be used.
7. Maximum range: [1,000 feet] [305 m] from control center to receiver.
8. Receiver shall require no additional source of power or separate control cable.

B. Type: Handheld wireless, basic, AA battery operated, sport specific, control center with receiver unit mounted at scoreboard; Model MPCX as manufactured by Nevco. Control will have operability with earlier scoreboards from Nevco.
1. Unit shall comply with Part 15 of FCC Rules and Regulations.
2. Control unit: High impact, break-resistant black ABS plastic Size: 3-1/4" x 5-1/2" x 7/8" [80 x 140 x 20 mm].
3. Features:
   a. Wireless operation within [1000 feet] [305 m].
   b. Operate multiple scoreboards simultaneously.
   c. System allows multiple controllers to link to individual scoreboards.
   d. High visibility LCD display with a sealed keyboard.
   e. Long battery life with indicator; include two AA batteries.
   f. Single hand operation with a no slip grip.
   g. Built-in belt clip.
   h. Wireless signal strength meter and internal antenna.
4. Receiver: Injection molded case, [5-1/2 by 3-3/4 by 2 inches] [140 by 95 by 51 mm] mounted at scoreboard in accordance with instructions.
5. Maximum range: [1,000 feet] [305 m] from control center to receiver.
6. Power adapters: Provide for each scoreboard receiver.
   a. Input: 120 volts, 0.4 amps, 50/60 Hz.
   b. Output: 9 volts, 1.67 amps, 15 watts.
7. Provide carrying case for up to two control centers, Model CC-4 as manufactured

by Nevco.

a. Size: [18-1/2 x 14-1/2 x 6 inches] [470 x 368 x 152 mm].

b. Construction: Double wall, high density black polyethylene with padded interior, mechanical latches, and hinges.

8. Provide suitable, RF transparent, NEMA 4 enclosure for receiver, to be located upon scoreboard supporting structure per installation diagrams.

2.7.4 VIDEO DISPLAY WITH 10 MM RESOLUTION

B. Type: (One) Interior, LED video scoreboard / message display. 10 MM Nevco Video Display as manufactured by Nevco.

8. Physical Size: 6.92' x 11.02' - 10 mm 192 x 336 Pixels
9. Approximate hanging weight: 550 lbs.
10. Display depth: [8.0 inches]
4. LED pixel elements:
   a. Single Tri-color SMD LED
   b. "Virtual Pixels" and other specious designs are specifically excluded.
5. LED pixel pitch: Exactly 10.00 mm.
6. Luminosity: 1500 NITS minimum.
7. Color capacity: Any additive color perceptible by the human eye. Mathematically greater than 16.7 million colors.
   a. Color Processing shall be 21 bits minimum (16 bits color, 5 bit brightness).
   b. Color Temperature, 6500 – 9500 deg K (adjustable)
8. Viewing angles: 160 degrees horizontal and vertical.
9. Contrast Ratio: 1,000:1
10. Sub-Module parts replacement shall include per-pixel filtering to simplify matching without use of additional software, or mechanical/electrical adjustments.
11. Working Temperature -20 to +50C.
12. Frame Rate 60 frames per second.
13. Refresh Rate 1200 Hz.
14. When operated as a message center, provide method of video upgrade. System upgrade to video can be performed with simple hand tools.
15. Video input NTSC or PAL standard, via Composite (BNC), S-Video mini-din. All other formats including Serial Digital Interface (SDI), High Definition Serial Digital Interface (HD-SDI) or HDMI available.
16. Includes complete control system processor for fully functional installation.
17. Provide "low cost" video control option.
18. Power requirements: 2614 Total Watts – 21.78A @ 120V
19. Power consumption: 200 Max watts per module with Power Factor Correction
20. LED life expectancy shall be 100,000 hours to 50% brightness degradation.
21. Service access: Front (and rear when service access is provided by installation method.)
22. Shall not require any regular scheduled maintenance such as filter cleaning or replacement.

B. DECORATIVE TRUSS, MASCOTS AND LETTERING

1. (One) Decorative Curved Truss Assembly manufactured of square tubular aluminum and angle.
2. 3' high at center x 11' wide for top.
3. Black powder coating for maximum durability.
4. Provide mounting clips to scoreboard structure.
5. (One) 125" thick flat painted aluminum Jaguar Logo

C. LOCKER ROOM CLOCKS

(3) Locker room clock: Provide LED clocks for locker rooms indicated on Drawings to be

interfaced with control center for basketball scoreboard. Model 9515 as manufactured by Nevco, Inc.

1. Size (length by height by depth): [17-1/2 x 10-3/4 x 1-5/8 inches] [445 x 273 x 41 mm].

2. Construction: Fabricate with brushed aluminum frame and aluminum face with gloss black finish.
3. Electrical power: 100-240 Volts AC 18 Watts.
4. Locker room clock shall display same time and timing functions as scoreboard timer.
5. LED display: Red [4 inches] [102 mm] high digits.

2.7.5 SCORERS TABLES

A. Type: (two) Interior, multi-purpose basketball/volleyball/wrestling rear-lit scorers to be installed in two sections of 8 feet each; Tables must interlock with each other and with new and/or additional scorers tables purchased in the future. Table must be able to have the cartridge changed to Led in the future using the same table.

1. Size: [97 inches long x 33 inches high x 28 inches deep.]
2. Table Depth: 19 inches [48 cm]
3. Approximate weight: [150 pounds]
4. Includes a 1 year parts and factory labor warranty on all components

B. Table feature requirements:

1. Construction: Heavy-duty, steel and aluminum construction. Lightweight for transporting.
2. No table legs or supports in middle of table, providing maximum knee space and leg room.
3. Footing lifts casters off floor when table is in use.
4. Footings protects floor from scratching and holds table in place securely.
5. Transport system: Fold away design tilts and lifts table onto casters for easy moving and high degree of maneuverability.
6. Upgradable cartridge-based system.
7. Expandability: Modular design easily connects seamlessly with additional tables.
8. Industrial powder coat finish to resist scratching.
9. Integrated power strip with 8 outlets. (120V, 15 Amp; separate power cord).
10. Padding available in team colors and PMS colors.
11. Capable of displaying 3rd party software applications such as Stat Crew.
12. Maintenance access: Front

C. Accessories and Options

1. Provide each scorers table with vinyl dust cover for each table.
2. Integrated LED possession arrow included.

2.7.6 VIDEO DISPLAY CONTROL SYSTEM

A. Control device shall be "Display Director" as manufactured by Nevco Inc.
B. PC Based device with Touchscreen interface supplied and installed by Nevco.
C. User interface based on familiar Windows format allows operator to control any size LED display (and up to 50 displays simultaneously) supporting true HD resolutions and fascia ribbon displays thousands of pixels wide.

D. Simple Clip Server Format allows a user-defined filing system for customizable

management of content.

E. Locally stored media is quickly distributed to all displays using a nimble Admin/client architecture with no latency
F. Software automatically scales source content to fit the display eliminating the need to re-create content or frame rates.
G. Stat Crew interface capable though RS232 feed integration
H. Automatically scales live video and feeds to fit the display. On board content to live video switch for quick change from content to video with no latency
I. Software allows for creation and storage of unlimited advertising playlists. Create sequences of up to 128 media entries.
J. Report generation for time, date and extent of advertising content to Excel
K. Supports a wide range of formats including (Video: MWV, MPG, AVI) (Images: JPEG, BMP, PNG with transparency)
L. Character generation, CG Overlays of Icons or Logos Included
M. HP L2206tm 21.5" touch screen monitor included

2.7.7 LOCKER ROOM CLOCKS

2.8 DOUBLE SIDED FULL COLOR LED MESSAGE CENTER

2.8.1 FULL COLOR LED MESSAGE CENTER

A. Type: Exterior electronic, full color, LED, double-sided message center to be [wall post supported 3' X 10' 20mm Full Color LED Message Center as manufactured by Nevco.

1. Viewing Matrix: ____40___pixels high X _144____ pixels wide.
2. Approximate hanging weight: ___500_____ pounds.
3. Message center depth: 8 inches [203 mm]
4. Number of message lines: 5 with 5.5" inch characters.
5. LED display elements: Each element shall contain three LED's and shall be capable of generating different colors through different combinations.

a. One red.
b. One green.
c. One blue.

6. LED pixel pitch: [.78 inch][20mm].
7. Pixel Brightness: 7,000 NITS (cd/m2).
8. Color capacity: 16,700,000 colors.
9. Viewing angles: 140 degrees horizontal and 60 degrees vertical.

B. Power requirements:

1. Input: 85-265 VAC.

C. Power consumption: 2725 watts.

D. Ambient operating temperature: -40 to 150 degrees F.

E. Should replacement of a block of pixels be necessary, message center shall be pixel by pixel adjustable to compensate for the effects of age degradation.

F. Maintenance access: Front.

2.8.2 MESSAGE CENTER CONTROL SYSTEM

A. Provide operating software and other accessories to use with computer and basic software [specified in other sections] [provided by [Owner] [others under separate contract with Owner].

1. Message center shall be controlled from remote location by one person.
   a.) Access to message center control shall be limited by a hardware security key.
   b.) Access shall be further limited by customer protected password.

2. Operating System: Windows based, 64-bit capable.

B. Communications link: [Fiber Optic cable] [CAT5 Ethernet cable] [Wireless Ethernet system.]

1. Status of communications between Composer Software and Message Center shall be constantly monitored.

C. Graphic capabilities: Text, animation, logos, multiple fonts, moving messages, and video file capability.

1. Each Message Center "project file" shall contain all the required information to successfully establish message frames on a given message center, from user created "playlists'. These frames and playlists shall have user definable attributes to comply with local sign laws regarding timing and presentation.

D. Input: Control software shall have ability to import AVI, BMP, JPG and GIF image files from Adobe, Corel, and other standard computer graphics software.

E. Control software shall consist of a single MMI window. Switching between windows and programs to affect message center properties shall not be allowed.

F. Proof of Performance: Software will provide an event record as proof of performance.

G. Display dimming: 16 levels controlled manually. (Outdoor, automatic with sensor.)

H. Automatic scheduling: Provide for creating schedule to display stored messages.

I. Provide temperature probe and photocell (outdoor only).

2.8.3 ACCESSORIES

A. Provide message center with control cable of required length in installation drawings. Outdoor includes temperature sensor / photocell. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by others.

B. Score and Timing display interface to Nevco MPC control console.

C. Plug-ins shall be available for 3rd party data integration including:
   a. FinishLynx ®

b. Hytek Track ®
c. Hytek Swimming ®
d. Omega® Swiss Timing Systems
e. Stat-Crew®, All sports

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify exact scoreboard and location with Floyd Central High School.
B. Coordinate requirements for electrical power, concrete, steel erection, auxiliary framing and supports, suspension cables, and other components to be provided under other Specification Sections to ensure adequate provisions are made for complete, functional installation of scoreboard and display.
C. Coordinate scoreboard electrical requirements to ensure proper power source, conduit, wiring, and boxes are provided. Prior to installation, verify type and location of power supply.

3.2 INSTALLATION

A. Install scoreboards and accessories in accordance with manufacturer's instructions and approved installation drawings.
B. Provide and install new Engineered Beam Structure in Concrete Footings for support of scoreboard, display and signage. All current building codes and wind criteria shall be incorporated into the design. Provide engineered stamped drawings, permits etc to complete the structure and scoreboard installation.
C. Field test scoreboards and accessories for operating functions. Ensure that scoreboards accurately perform all operations. Correct deficiencies.
D. Rigidly mount scoreboards and accessories level and plumb with brackets and fasteners.
E. Basic clean up of work area included.

3.3 DEMONSTRATING AND TRAINING

A. In accordance with Section 01 75 00 - Starting, Adjusting, and Demonstrating, provide demonstration and training session for Owner's representative covering operation and maintenance of electronic scoreboard.
B. On-Site Supervision of first events at Football and Basketball

END OF SECTION

Preliminary Geotechnical Report

for

Stanley Allen Property

Eastern, Kentucky

April 2, 2014

Prepared for

Floyd County Schools

c/o Sherman Carter Barnhart PSC

Lexington, Kentucky

CSI Project Number LX140100

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Geotechnical & Materials Engineering | IBC Special Inspection | Material Testing

April 2, 2014

Floyd County Schools
c/o Sherman Carter Barnhart PSC
2405 Harrodsburg Road
Lexington, KY 40504

Attention: Mr. Kevin Cheek, AIA

Subject: **Preliminary Geotechnical Report**
Stanley Allen Property
Eastern, Kentucky
CSI Project No. LX140100

Dear Mr. Cheek:

Consulting Services Incorporated of Kentucky (CSI) is pleased to present our *Preliminary Geotechnical* Report for the Stanley Allen Property in Eastern, Kentucky. We provided our services in general accordance with our Proposal for Preliminary Geotechnical Services dated January 7, 2014.

Please note that Desktop Reviews for this site (and the other two potential sites) were previously published on January 21, 2014. The previously provided information pertaining to the Stanley Allen Property has been included in this report.

The following report includes a discussion of our findings based on the research and field services performed for these Preliminary and Intermediate Geotechnical Services. The information contained within this report is intended to aid in the determination of the most suitable site (strictly from a geotechnical perspective) for the proposed construction and to provide preliminary recommendations to help further the design of the project. While suggestions and preliminary recommendations have been included for the development of the proposed site, this information is purely preliminary in nature. Thus, additional geotechnical services will be required for the design of the new school.

INTRODUCTION

The Stanley Allen Property is one of three possible sites for the proposed construction of a new Floyd County High School in Eastern, Kentucky. Specifically, the Stanley Allen Property is located north of KY Route 680 (roughly 1/4-mile east of the intersection of KY Rout 80 and KY Route 680. The physical address for the property is 889 KY Route 680 W in Eastern, Kentucky. Please reference the attached Site Location Plan for details.

We understand that the purpose of these Preliminary and Intermediate Geotechnical Services is to incorporate our findings (based on our field and laboratory services) with the aforementioned reviewed information to aid in the site selection process and to provide preliminary geotechnical recommendations for the project. Therefore, we have performed a review of published data (i.e. - topographic maps, geologic maps, aerial photographs, mine maps, soil survey information, etc.), information provided by the design team, as well as our data collected from our borings, test pits and laboratory testing for these purposes.

AREA/SITE INFORMATION

Area Physiography/Topography

The site is located in the Eastern Kentucky Coal Fields Physiographic Region of Kentucky. This area consists of forested hills and V-shaped valleys. Published mapping reviewed indicates elevations in the site vicinity range from 680 feet to 1520 feet. Below is a figure of the location of the site with respect to the regional physiography.

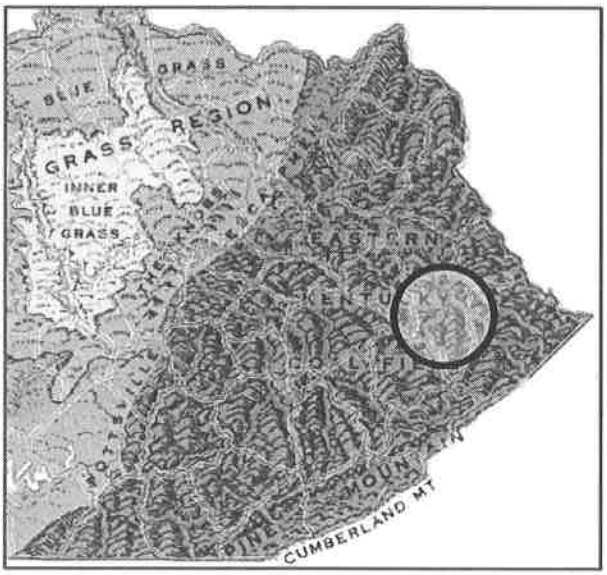


Figure 1. Kentucky Physiographic Map (site vicinity shown in the circle)

Based on our review of available topographic mapping (dated 1992), the elevations on-site range from 750 feet to approximately 1400 feet. According to the available topographic

mapping, no structures existed on-site at the time the site was mapped. Also, no deep mine adits or strip mining were indicated on-site in the available topographic mapping. The following map shows the topographic mapping for the site vicinity in 1992.

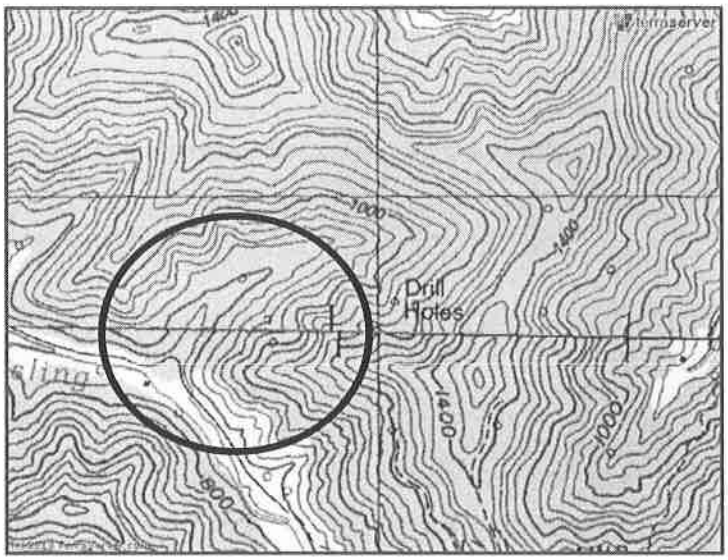


Figure 2. Portions of the USGS Martin and Wayland Quadrangles, dated 1992 (DigitalGlobe)
Site vicinity shown in circle

Additionally, we have reviewed topographic data provided by Bocook Engineering, Inc. and the Exhibit Map drawing of the Stanley Allen Property provided by Bocook Engineering, Inc., dated July of 2013. This drawing provided elevation information at select locations along the hollow and adjacent to KY Route 680W within the property boundary. The following figure shows a portion of the provided drawing.

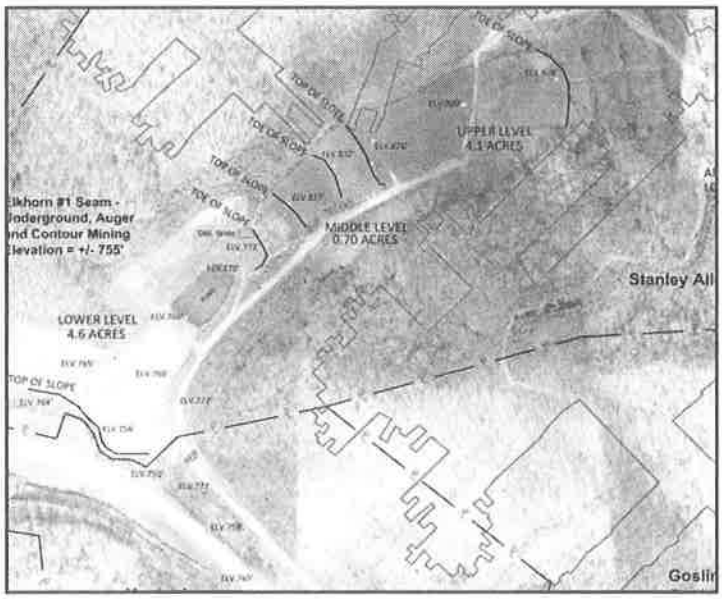


Figure 3. A portion of the Exhibit Map drawing of the Stanley Allen Property by Bocook Engineering, Inc., dated July 2013

Site Geology

A review of the *USGS Geologic Maps of the Martin and Wayland Quadrangles* (dated 1966 and 1978, respectively) indicates that the higher elevations of the project site are underlain by the Breathitt Formation of Lower and Middle Pennsylvanian aged rock deposits. The lowest elevations on-site (near Gosling Branch) are underlain by Alluvium (water-transported) soils.

As mapped, the Breathitt Formation (at or near the existing elevations on-site) consists of sandstone, siltstone, shale, and coal. The sandstone is described as being very fine to medium grained, locally massive, and cross-bedded. The siltstone is described as being medium gray, sandy to clayey, and fissile to blocky. The shale is described as being dark gray, sandy to silty, poorly fissile and very carbonaceous. Also, several coal seams are mapped in the project vicinity. These coal seams are discussed in the *Mine Map Review* Section, later in this report.

Karst activity (i.e. - sinkholes, caves, underground streams, etc.), or other geologic hazards are not commonly associated with the Breathitt Formation. The geologic dip at the project site is less than 1 percent to the northwest. The following figure shows the geologic mapping in the site vicinity.

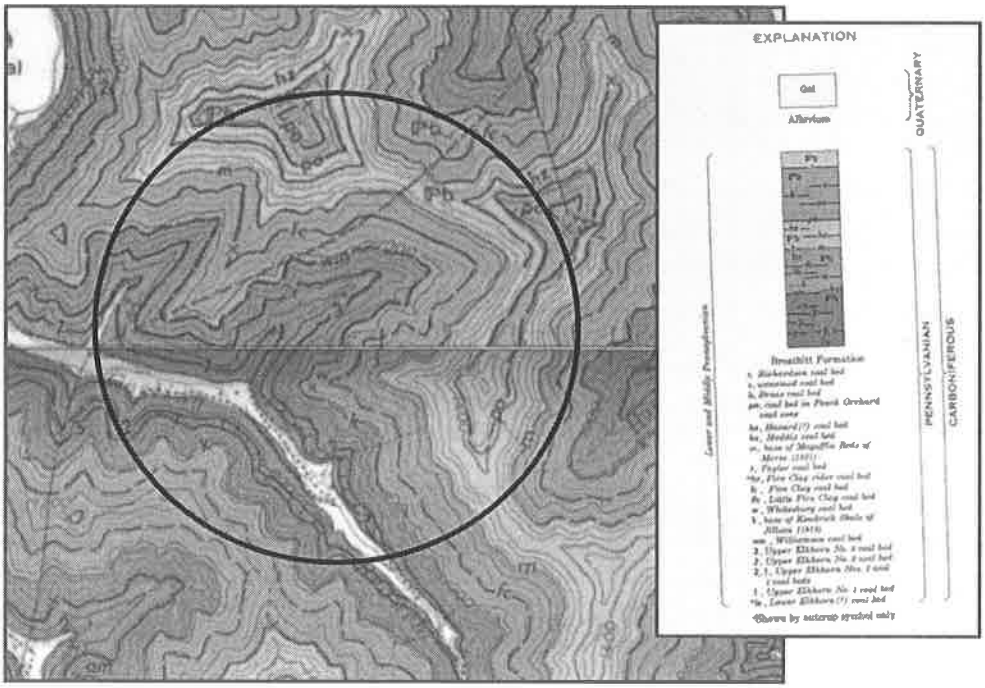


Figure 4. Site Geology USGS *Geologic Maps of the Martin and Wayland Quadrangles*, dated 1966 and 1978, respectively (Site vicinity shown in the circle)

Our review of the *USGS Martin and Wayland Topographic and Geologic Quadrangle Maps* revealed the following information:

- Strip mining has occurred north, east, south and west of the project site area.
- Deep mining has occurred north, east, south and west of the project site
- Mine adits (openings) are mapped north, east, south and west of the site

Mine Map Review

We reviewed publicly available maps from the Kentucky Mine Mapping Information System through their web site www.minemaps.ky.gov. These maps indicated strip mining on multiple seams and deep mining in the hills north, east and west of the proposed site. While we do not believe that the hollow is directly underlain by underground mine works, we expect that auger holes or highwall miner holes may be encountered along the strip mining highwalls in the adjacent hillsides.

There are four coal seams that are indicated on the geologic mapping at or above the elevations of the site area (shown on the *Martin and Wayland Geologic Quadrangle Maps* above). Also, there are three coal seams mapped at or below the elevation of the project site. Please reference the mine map and summary sections below for an overview of our cursory mine map review.

Surface Mining - Based on the *USGS Martin and Wayland Geological Quadrangle Maps*, there are seven seams that would likely be surface mined (i.e. - strip mined and/or augered) near the project area:

Peach Orchard	1360 to 1420 feet*
Hazard	1320 to 1360 feet*
Fire Clay	1090 to 1120 feet*
Williamson	1000 to 1040 feet*
Upper Elkhorn No. 3	840 to 880 feet*
Upper Elkhorn No. 2	800 to 820 feet*
Upper Elkhorn No. 1	720 to 760 feet*

* Please note that the USGS geologic maps are based on 40-feet contour intervals

Deep Mining - Based on the *USGS Martin and Wayland Geological Quadrangle Maps*, there are three seams that could be deep mined adjacent at or below the elevations of the project site area:

Upper Elkhorn No. 3	0 - 48 inches thick
Upper Elkhorn No. 2	0 - 42 inches thick
Upper Elkhorn No. 1	0 - 48 inches thick

Mine Map Review - We reviewed the publically available mine maps at www.minemaps.ky.gov for this area. This review indicated the following data for the project site:

Peach Orchard (#47)	strip/contour mined in this area
Peach Orchard (#55)	strip/contour mined in this area
Hazard (#65)	strip/contour mined in this area
Fire Clay (#136)	strip/contour mined in this area
Upper Elkhorn No. 3 (#205)	deep mined in this area
Upper Elkhorn No. 2 (#210)	contour/auger/deep mined in this area
Upper Elkhorn No. 1 (#215)	contour/auger/deep mined in this area

Based on our mine map review, there are three seams that have been deep mined in the area. Of the three, the Upper Elkhorn No. 1 occurs at elevations roughly at or below the lower

elevations on-site. Our cursory mine map research did not indicate the presence of any deep mines directly below the expected project area. However, these maps are not completely accurate. Therefore, there is an inherent risk of deep mines or augering in this area.

Also, we have spoken with Mr. Lynn Parrish (formerly with Coal Mac, Inc.). Mr. Parrish was involved with the mining operations on-site. He explained that highwalls were cut into the hillsides on-site to contour strip several coal seams. These seams were then mined utilizing auger mining and highwall miner techniques. These highwalls were then filled to their current existing grades. Thus, we would expect that voids exist within the hillside along the mined coal seams. Excess spoil from the strip mining operations were hauled by truck to the hollowfill in this hollow.

The following figures show the site mine mapping for each identified mined coal seam.

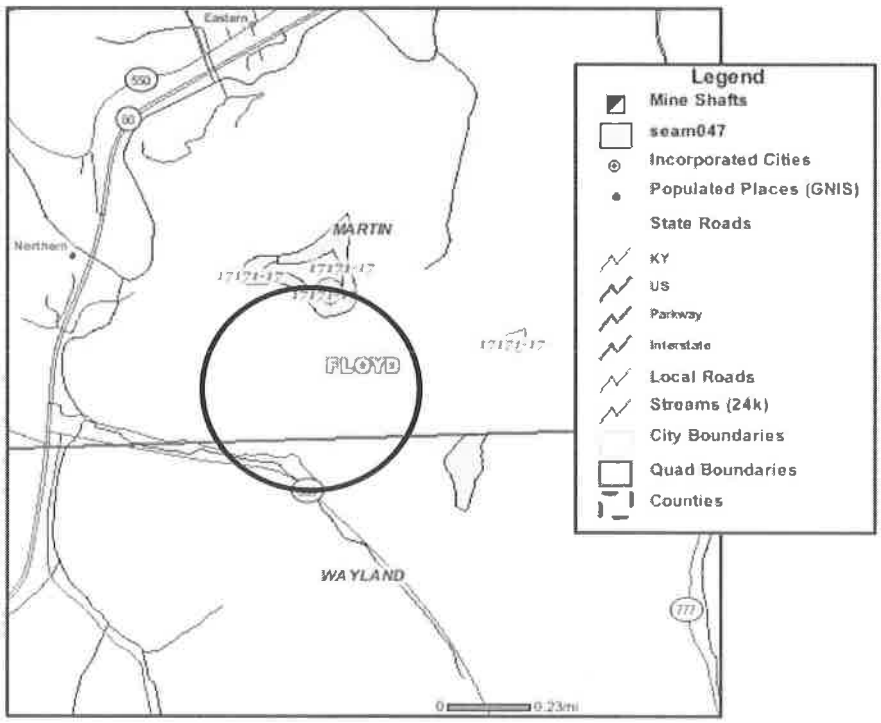


Figure 5. Mine Works Map, Peach Orchard Coal Seam (#47)
(Site vicinity shown in oval)

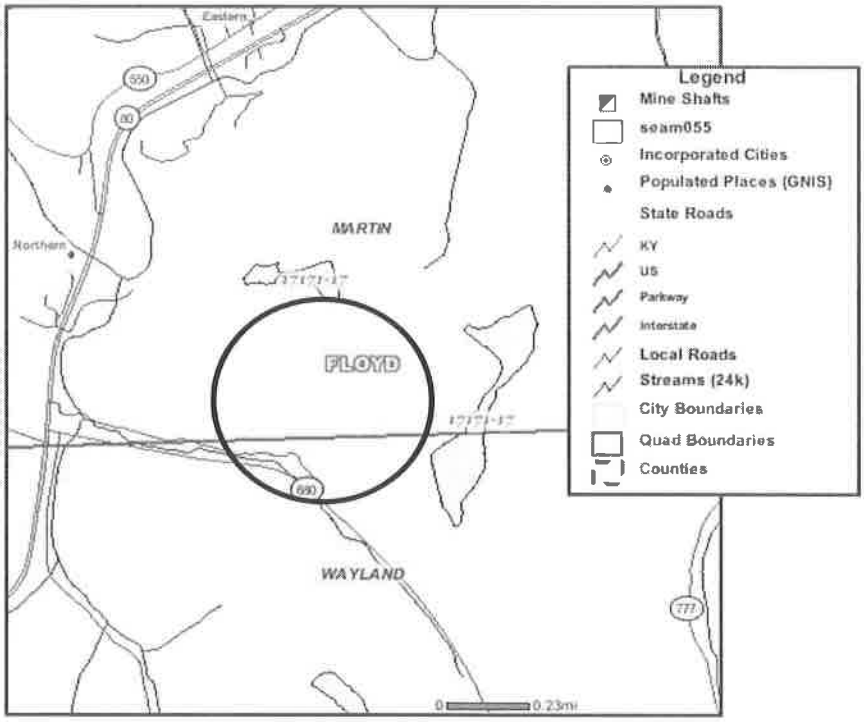


Figure 6. Mine Works Map, Peach Orchard Coal Seam (#55)
(Site vicinity shown in oval)

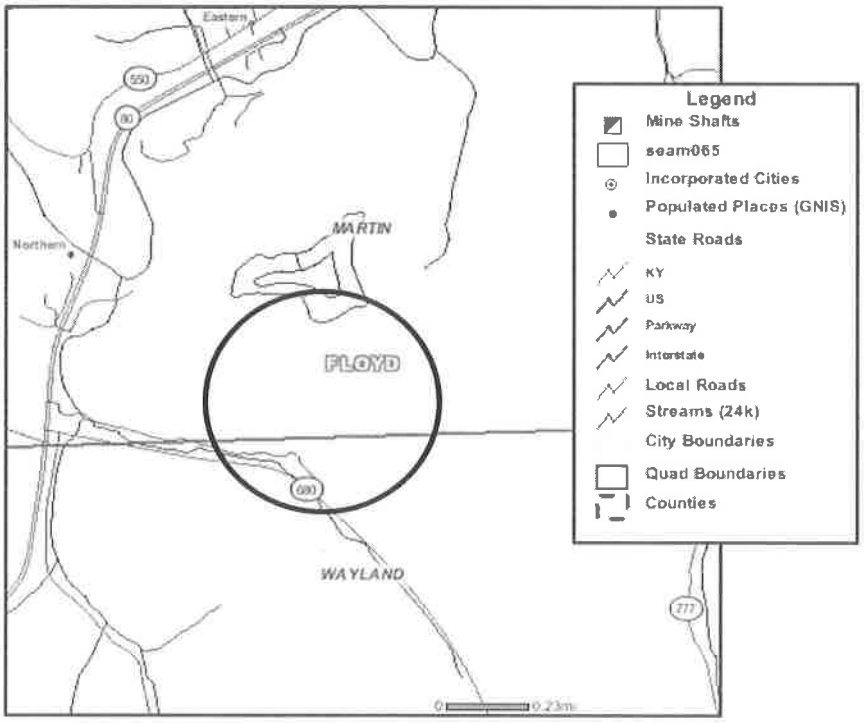


Figure 7. Mine Works Map, Hazard Coal Seam (#65)
(Site vicinity shown in oval)

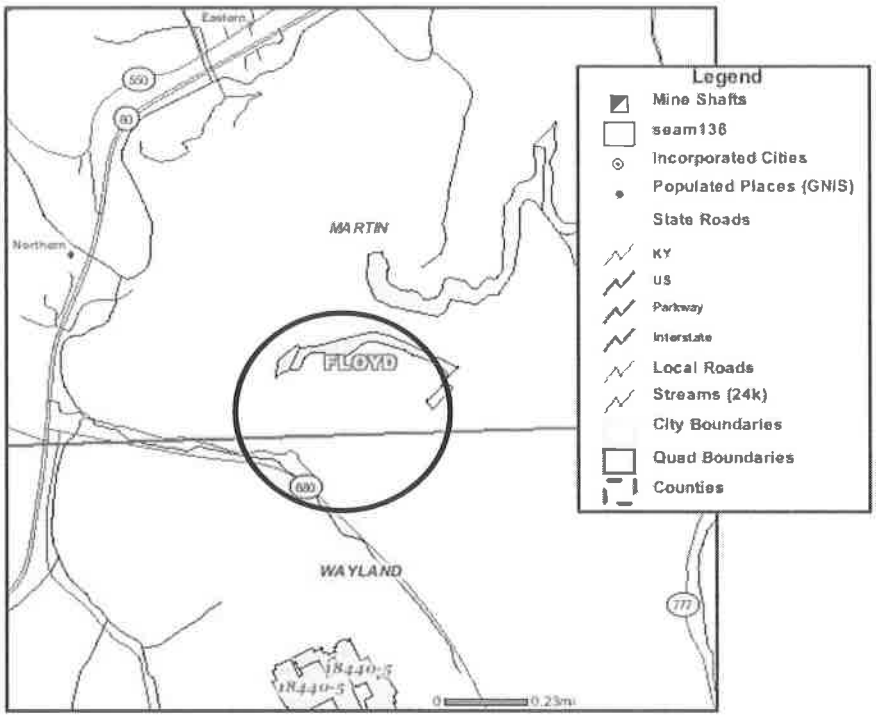


Figure 8. Mine Works Map, Fire Clay Coal Seam (#136)
(Site vicinity shown in oval)

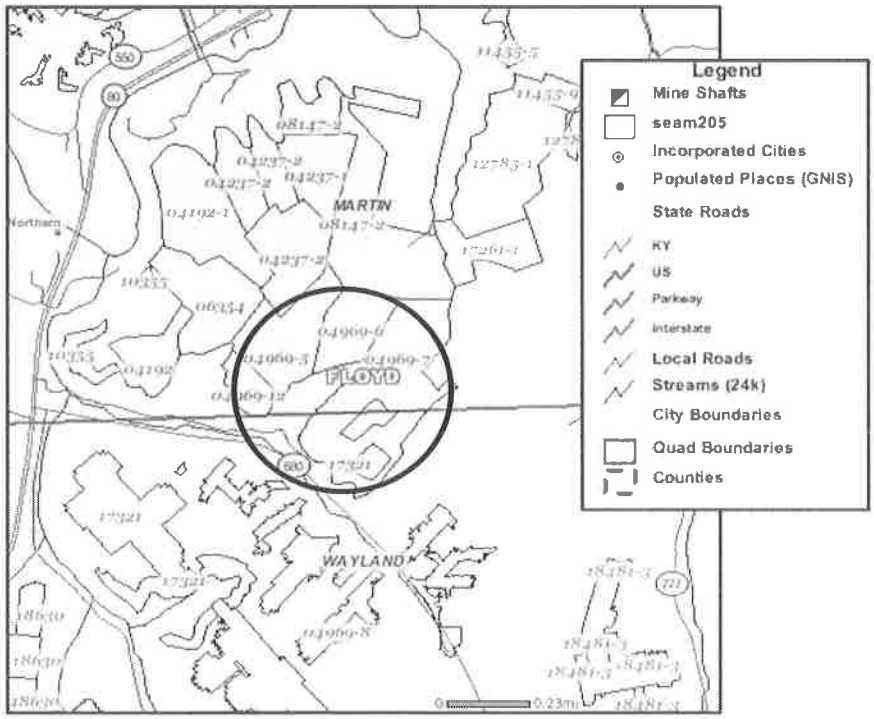


Figure 9. Mine Works Map, Upper Elkhorn No. 3 Coal Seam (#205)
(Site vicinity shown in oval)

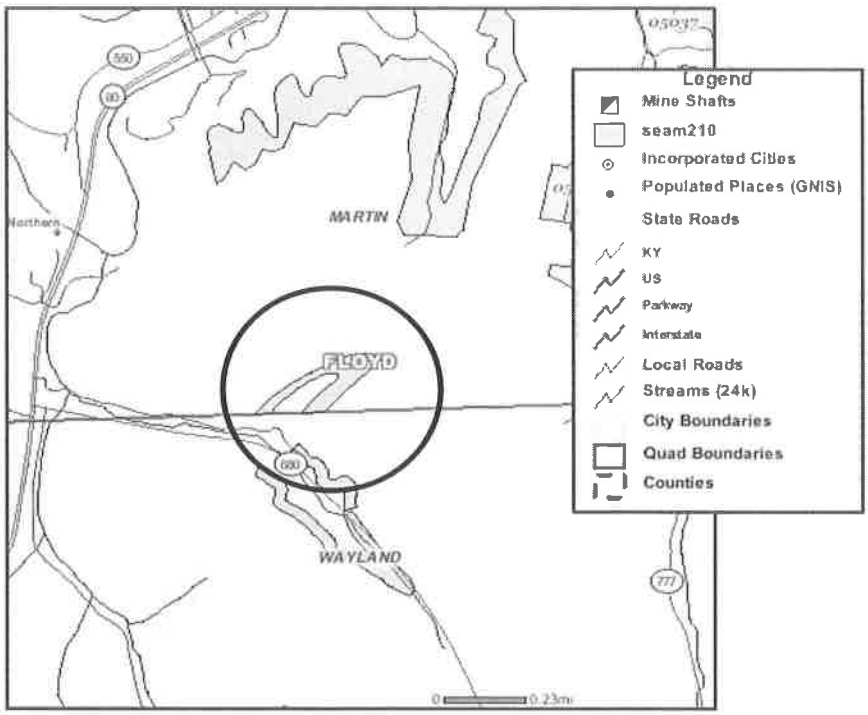


Figure 10. Mine Works Map, Upper Elkhorn No. 2 Coal Seam (#210)
(Site vicinity shown in oval)

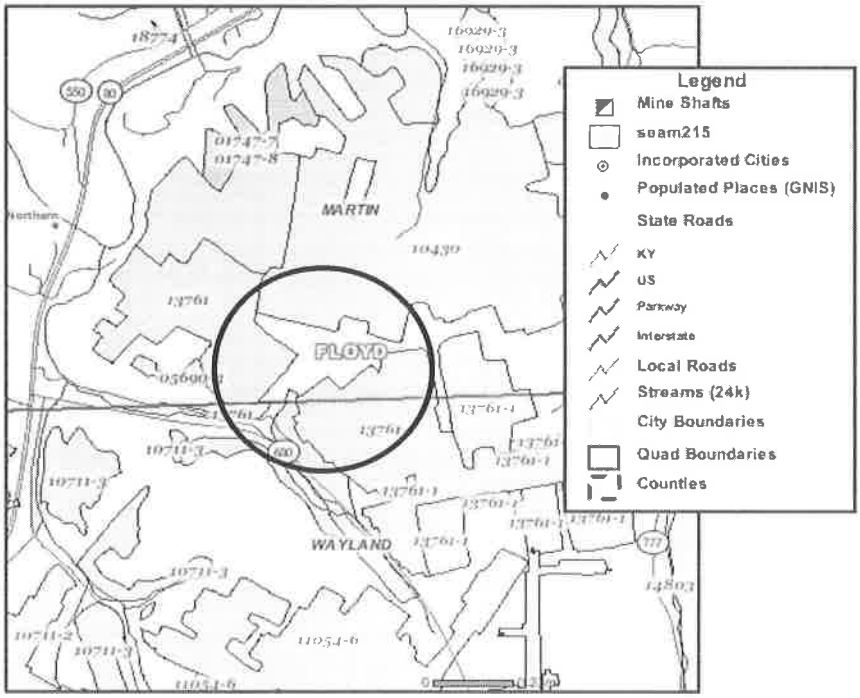


Figure 11. Mine Works Map, Upper Elkhorn No. 1 Coal Seam (#215)
(Site vicinity shown in oval)

The following figure shows a portion of the Coal Mac, Inc. mine map (Permit No. 836-0196) illustrating a portion of the strip mining extents performed at the site.

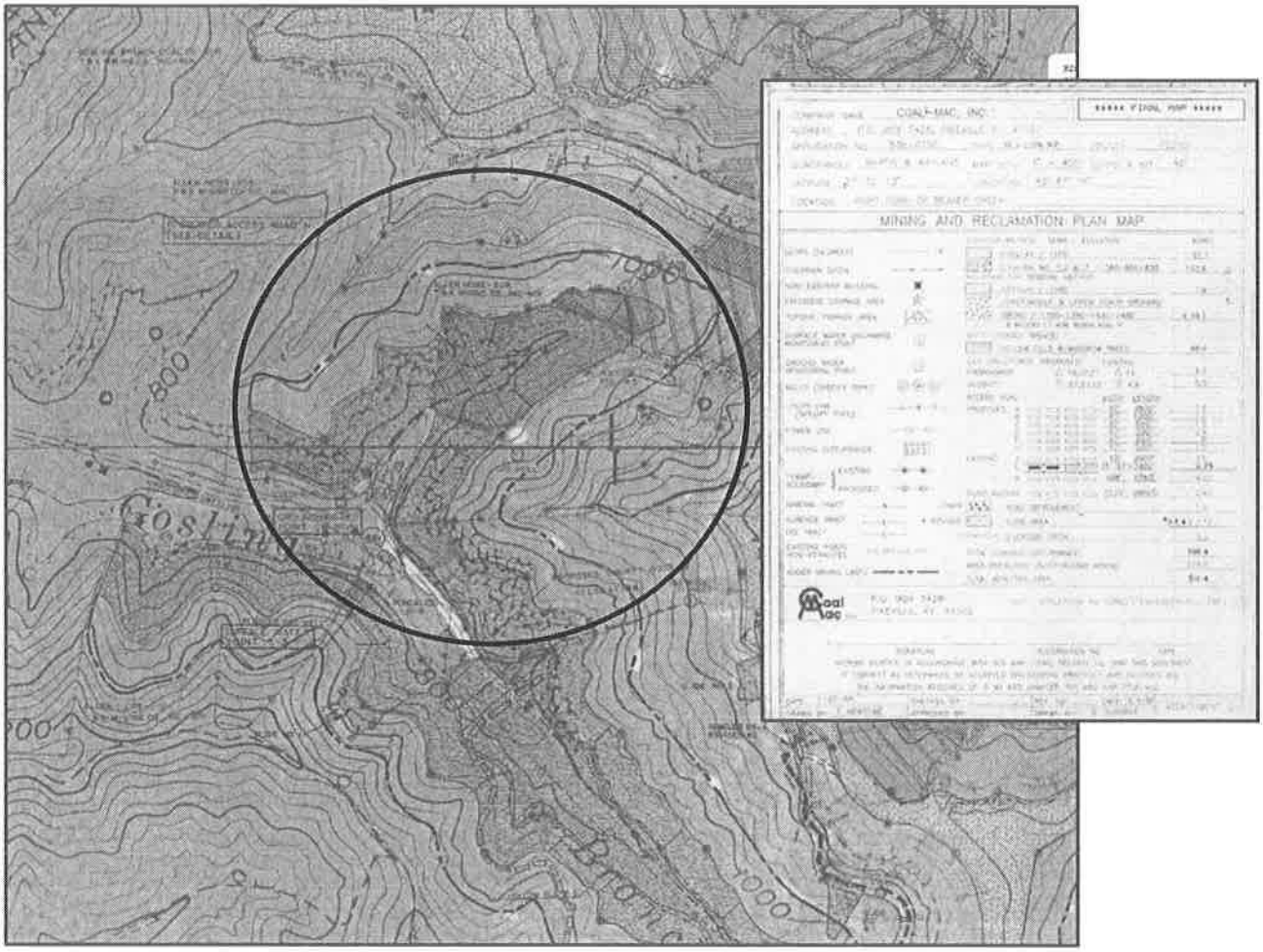


Figure 12. Mine Works Map, Coal Mac mine map (Permit No. 836-0196)
(Site vicinity shown in oval)

Published Site Soil Conditions

According to the USDA Soil Survey of Floyd County (NRCS website), the soils underlying the Stanley Allen Property site consist of the following series:

- Dekalb-Gilpin-Marrowbone complex (DgF), 20 to 80 percent slopes, very stony
- Fairpoint-Bethesda complex (FbF), 30 to 70 percent slopes, stony
- Hazleton-Fedscreek-Kimper complex (HkF), 30 to 80 percent slopes, very stony
- Hazleton-Fedscreek-Marrowbone complex (HmF), 30 to 80 percent slopes, very stony
- Myra very channery fine sandy loam (MyF), 30 to 70 percent slopes, stony
- Potomac-Shelocta-Grigsby complex (PsC), 2 to 15 percent slopes
- Sharondale-Hazleton-Kimper complex (SaF), 30 to 80 percent slopes, extremely stony

The following describes the soil series characteristics and limitations with respect to construction.

- Depth to restrictive feature (i.e. - lithic bedrock) for these soil series are listed as ranging from 28 inches to more than 80 inches.
- Depth to the water table for these soil series is generally greater than 80 inches. Please note that the depth to the water table for the soil series PsC is listed as 60 inches.
- These soil series are generally listed as being "Very limited" with respect to the soil's suitability for the construction of shallow excavations. Particular issues affecting construction include depth to hard bedrock, unstable excavation sidewalls, and slope.
- These soil series are generally listed as being "Very limited" with respect to the soil's suitability for the construction of small commercial buildings. Particular issues affecting construction include depth to hard bedrock, shrink-swell potential, unstable fill, and slope.
- These soil series are generally listed as being "Very limited" with respect to the soil's suitability for the construction of local streets and roads. Particular issues affecting construction include depth to hard bedrock, shrink-swell potential, slope, and unstable fill.

The following figure shows the Stanley Allen Property with respect to the mapped soil survey information.

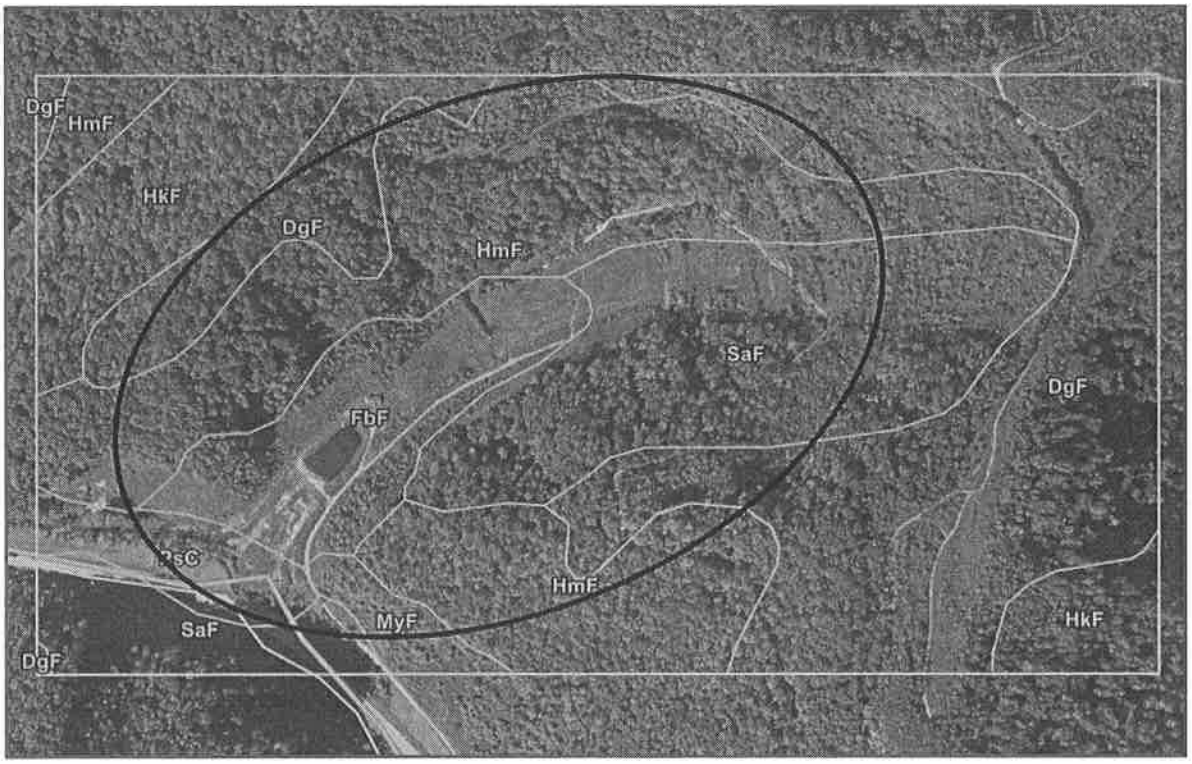


Figure 13. USDA Soil Survey Map of the Stanley Allen Property

Due to the development of the site and surrounding area, much of the project site has been re-graded. Therefore, the soil survey information listed above may no longer be useful in these areas since the site soils have been altered. Thus, the soils described above may be on-site but not in their natural condition.

Development History

We have reviewed available aerial photographs, dated as far back as 1995. Based on the earliest reviewed aerial map, the residence and pond existing at the lower elevations on the site currently were not present in 1995. The pond was constructed at some time between 1995 and 2004. Additionally, it appears that a portion of the existing fill material on-site (adjacent to KY Route 680) was placed after 1995. However, the strip mining activities along the adjacent hillsides appear to have taken place prior to 1995.

At some time between 2008 and 2010, a small structure was constructed southwest of the existing pond. Also, it appears that the existing residence was constructed on-site during that time. The small structure southwest of the pond was removed between April 15, 2010 and October 4, 2011. The site appears to have undergone little change after October 4, 2011. The following aerial photos show the site in 1995, 2004, 2006, 2008, 2010, and 2011.

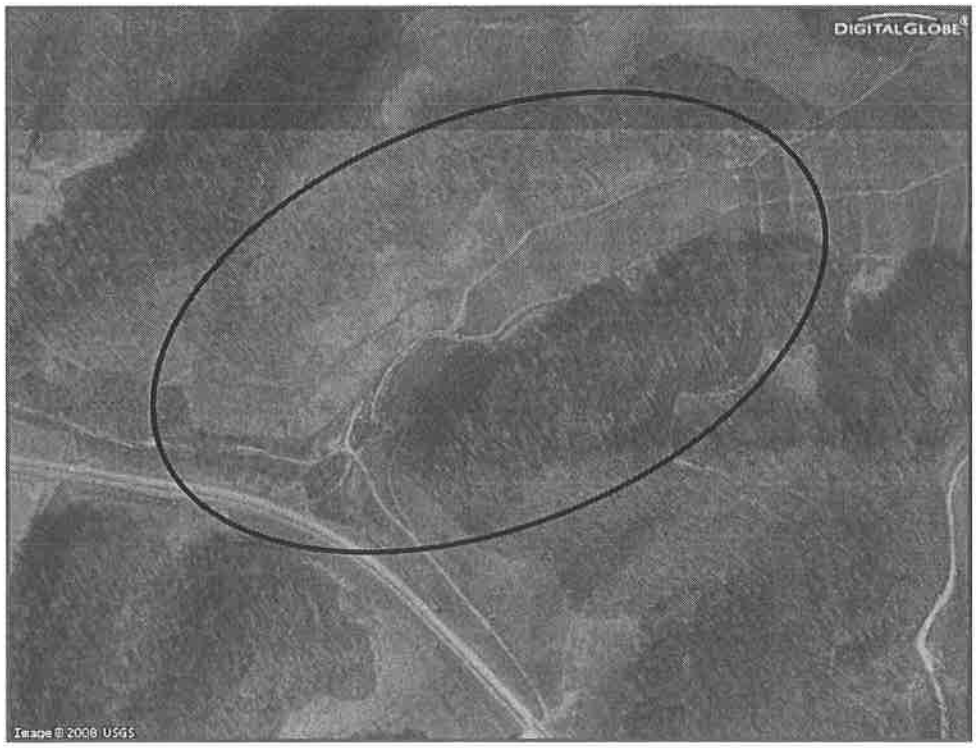


Figure 14. Aerial Photo dated March 16, 1995
(DIGITALGLOBE)

Figure 15. Aerial Photo dated September 23, 2004
(DIGITALGLOBE)

Figure 16. Aerial Photo dated June 1, 2006
(DIGITALGLOBE)

Figure 17. Aerial Photo dated August 18, 2008
(DIGITALGLOBE)

Figure 18. Aerial Photo dated April 15, 2010
(DIGITALGLOBE)

Figure 19. Aerial Photo dated October 4, 2011
(DIGITALGLOBE)

SITE OBSERVATIONS

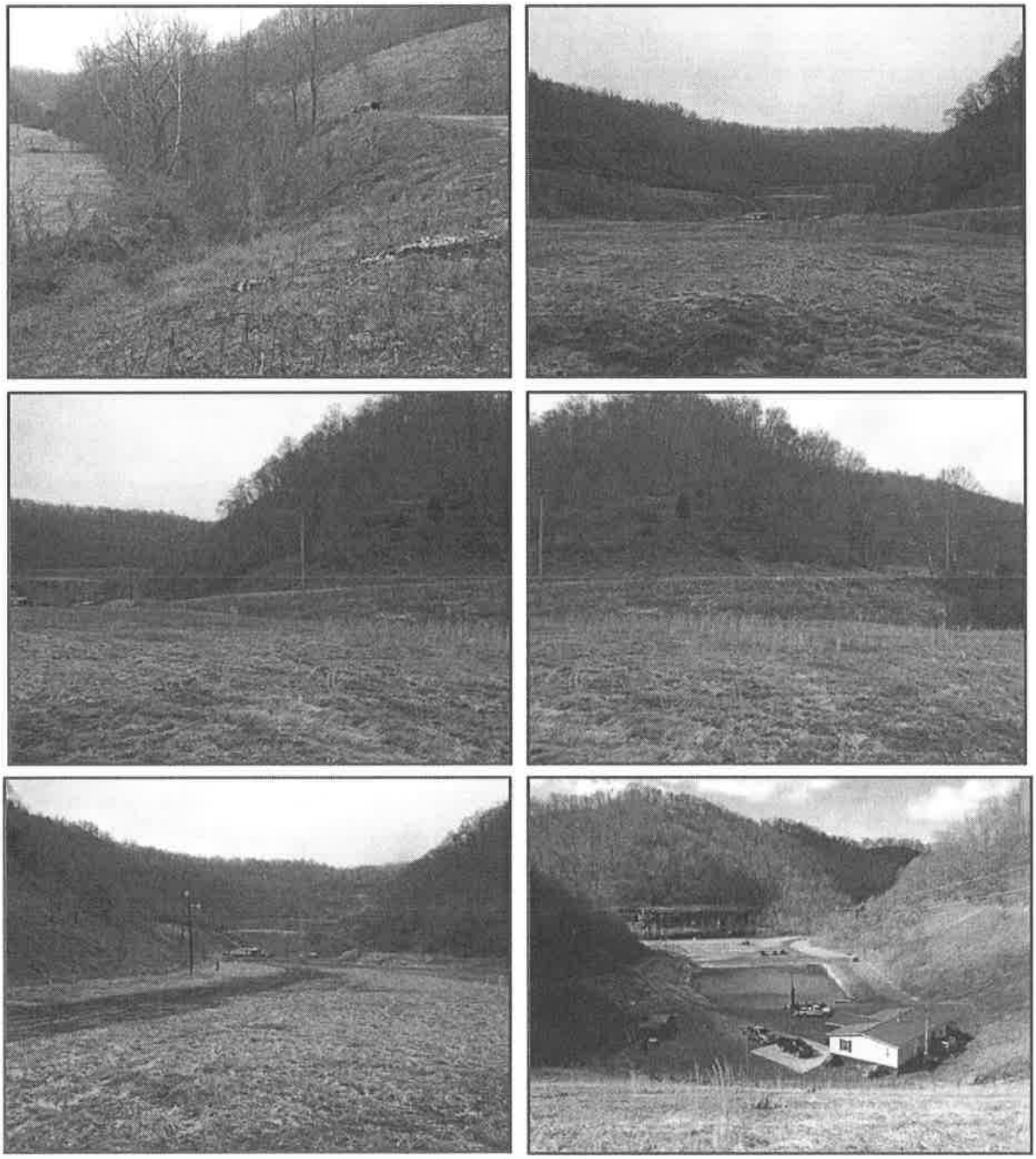
CSI professionals Mr. Bruce Hatcher, PE and Mr. Todd Helton, EIT performed a site visit on January 10, 2014 to observe the proposed project site. The CSI professionals met with members of the design team as well as Dr. Henry Webb, Floyd County Superintendent, while on-site.

Site visits were also performed by Mr. Todd Helton, EIT of CSI on March 17, 18, and 19, 2014. The CSI representative performed a field reconnaissance, directed the drilling and test pit operations, and logged the recovered soil samples at (the lower hollowfill area only) of the Stanley Allen Property. The following includes a summary of our observations of the proposed project site.

Based on our observations, the site contains multiple tiers of hollowfill likely placed as a result of mining and/or road construction operations in the past. Specifically, it is believed that the fill placed at the higher elevations on-site (above the highest "flat area") was created as a result of the mining activities at the top of the ridge. The fill placed at the lower level of the hollowfill may have been placed during strip mining or during the construction of the adjacent KY Route 680.

The site cover in the hollowfill areas consisted primarily of sporadic ankle high grasses with areas of exposed soil. Several small trees were observed in sporadic groups in the hollowfill area. A rough access road exists along the southeastern perimeter of the hollow. The hillsides along the northwestern and southeastern perimeters of the hollow were heavily wooded.

While we did not observe the highest elevations during our site visit, we understand that the hollowfill extends up to the top of the ridge line northeast of the proposed construction area. The following photos show the Stanley Allen Property at the time of our site visit.



Example photos of the Stanley Allen Property

Example photos of the Stanley Allen Property

SUBSURFACE CONDITIONS

During our field services, we completed five soil borings (labeled B-101 through B-105) within the lower tier of the hollowfill area on-site. Our field services for this preliminary geotechnical exploration were limited to this lower tier of the hollowfill (as this area of the site was previously identified as the most likely area for the location of the proposed school building). Additionally, we performed five test pits (labeled TP-1 through TP-5) in the same area to verify the conditions encountered at our boring locations and to better observe the contents of the encountered fill in these areas. Please reference the attached Boring and Test Pit Location Plan for details of approximate boring and test pit locations.

It is our understanding that the building may be shaped to roughly match the shape of this lower tier of the hollowfill (rectangular or T-shaped). Thus, we performed our borings and test pits to gather data for this orientation.

In general, we encountered a thin root zone, overlying previously placed fill/possible fill, overlying natural soils, overlying weathered rock, overlying bedrock. Please reference the Summary of Soil Borings and the Summary of Test Pits on the following page for details.

We encountered a thin root zone in four of our five borings. The root zone had thicknesses ranging from approximately 1 to 3 inches thick.

We encountered previously placed fill at all of our boring and test pit locations. The previously placed fill generally consisted of brown and gray clay with varying amounts of sand and rock fragments (including coal fragments), some wood fragments (up to 3-inches in diameter in our test pits), and few boulders (maximum dimension of about 3-feet in our test pits). The previously placed fill thicknesses ranged from 3.5 feet to 24.7 feet. Please note that possible fill was encountered (beneath the previously placed fill) at borings B-102 and B-103 with thicknesses of 3.7 feet and 4.0 feet, respectively. This possible fill appeared to be disturbed. However, the material was similar to the natural soils encountered at deeper depths at our boring locations.

Beneath the previously placed fill (or possible fill), we encountered natural soils at four of our five borings and at one of our five test pits. The natural soils generally consisted of gray silty clays (CL-ML) with varying amounts of sand and rock fragments. Also, highly weathered rock was encountered at boring B-101 which had soil-like qualities due to the level of weathering. Thus, we are including this highly weathered shale in the total thickness of the natural soils at that boring location. The thickness of the natural soils ranged from 1.2 feet to 13.8 feet.

Please note that all of our test pits were terminated at the extent of the excavator. Thus, four of our five test pits were terminated while still in previously placed fill (however, natural soils were encountered at test pit TP-1).

Beneath the natural soils (or directly beneath the possible fill at boring B-103), we encountered weathered rock at all five of our boring locations. Weathered rock ranged in thickness from 1.4 feet to 7.8 feet in our five borings.

Auger refusal is typically interpreted as top of hard bedrock. Auger refusal was encountered at all five of our boring locations. The depths to auger refusal varied from 18.8 to 34.3 feet. Please see the following Summary of Soil Borings and Summary of Test Pits tables for further details.

Summary of Soil Borings

Boring No.	Boring Elevation (ft)*	Root-Zone (in)	Previously Placed Fill/ Possible Fill (ft)	Natural Soil (ft)	Weathered Rock (ft)	Auger Refusal Depth (ft)	Auger Refusal Elevation (ft)	Free Water Depth (ft)
B-101	764.6	NA	6.0	8.3	4.5	18.8	745.8	NA
B-102	763.2	3	24.5/3.7	1.2	4.6	34.3	728.9	22
B-103	759.8	2	17.3/4.0	NA	7.8	29.3	730.5	16
B-104	766.3	1	24.7	4.3	3.1	32.2	734.1	21
B-105	771.7	2	18.3	13.8	1.4	33.7	738.0	15

* Boring elevations were provided by the project surveyor, Bocook Engineering Inc (rounded to the nearest tenth-foot).

Summary of Test Pits

Test Pit No.	Elevation (ft)*	Root-Zone (in)	Previously Placed Fill (ft)	Natural Soil (ft)	Test Pit Termination Depth (ft)
TP-1	764.1	NA	3.5	4.7+	8.2
TP-2	763.5	NA	7.8	NA	7.8
TP-3	760.1	NA	7.8	NA	7.8
TP-4	766.7	NA	8.3	NA	8.3
TP-5	761.2	NA	7.8	NA	7.8

* Test Pit elevations were provided by the project surveyor, Bocook Engineering Inc (rounded to the nearest tenth-foot).

Please note that free water was encountered at four of our five boring locations upon completion of soil augering (no water was encountered at boring B-101). The free water was encountered at depths ranging from 15 feet to 22 feet. Please note that no groundwater level readings were taken upon completion of rock coring as water was used to cool the rock coring bit. Also note that no groundwater was encountered within our test pit excavations upon completion of excavation.

Water conditions in previously placed fill often consist of trapped/perched water zones which occur in variable areas in the fill soil mass. Perched water sources are often not linked to the more continuous relatively stable groundwater table that typically occurs at much greater depths. Finally, water issues are also dependent upon recent rainfall activity and surface and subsurface drainage patterns in the area. The groundwater level should be expected to become more shallow during wetter months or after heavy rainfall events. Additionally, the water level in our boring performed adjacent to the existing pond (B-105) was approximately 15 feet deep. Please note that this hole was not left open for 24 hours due to safety concerns for the property residents. Thus, no 24-hour water level reading was taken at this location. We would expect the groundwater level in the area around the existing pond would be similar to the water level within the pond. This water level should be expected to become more shallow after heavy rainfall events.

We performed 10-feet of rock coring (in either one 10-feet run or two 5-feet runs) at all five of our boring locations to verify that bedrock (not just a boulder) was encountered at each location and to observe the rock quality of the underlying bedrock. In general, the underlying bedrock consisted of gray, light brown, and blue-gray sandstone with some interbedded shale. No coal seams were observed in our rock cores. The rock core recoveries at our coring locations ranged from 90 to 100 percent. The Rock Quality Designation (RQD) values of the recovered rock cores were of good to excellent engineering quality with RQD values ranging from 78 to 93 percent.

The subsurface conditions encountered at the boring locations are shown on the attached Boring Logs. These Boring Logs represent our interpretation of the subsurface conditions based on the field logs, visual examination of field samples by an engineer, and tests of the samples collected. The letters in parentheses following the soil descriptions are the soil classifications in accordance with the Unified Soil Classification System. It should be noted that the stratification lines shown on the soil boring logs represent approximate transitions between material types. In-situ stratum changes could occur gradually or at slightly different depths. Water levels shown on the Boring Logs represent the conditions only at the time of our exploration.

LABORATORY TESTING

Laboratory tests were performed on selected recovered samples from our borings. Details for the test methods and results are shown in the Attachments. The following includes a list of the performed laboratory testing. Detailed descriptions of these tests and the results of our testing are included in the Attachments. Tests performed included:

- Natural moisture content tests

- Atterberg limits test
- Percent fines analysis
- Unconfined compressive strength test (on rock)

DISCUSSION OF GEOTECHNICAL CONCERNS

Please note that our field services for this preliminary geotechnical exploration were limited to the lower elevations of the site previously identified as the most likely area for the location of the proposed school building. Thus, no drilling or test pit excavations were performed at the higher elevations (the upper tiers of the hollowfill) on-site.

In general, the geotechnical concerns discussed in our desktop review coincide with the geotechnical concerns discussed in this section of our report. However, the absence of typical highway and/or mine spoil fill (i.e. - large boulders) at our boring and test pit locations indicate that the risk associated with the construction of the new school building may be reduced slightly. As discussed in our previous report, we believe the primary geotechnical concerns to date include:

Previous Site Improvements

Several existing overhead and underground utilities (i.e. - electric, gas, water, etc.) are located within the construction limits. These utilities will likely require removal/relocation prior to construction. Additionally, a mobile home and small pond exist on-site which will require removal prior to construction.

Previously Placed (Old) Fill

As previously discussed, old fill was encountered at each of our borings and test pits. The previously placed fill generally consisted of brown and gray clay with varying amounts of sand and rock fragments (including few coal fragments), some wood fragments (up to 3-inches in diameter in our test pits), and few boulders (maximum dimension of 3-feet in our test pits). The previously placed fill thicknesses ranged from 3.5 feet to 24.7 feet. Please note that possible fill was encountered (beneath the previously placed fill) at borings B-102 and B-103 with thicknesses of 3.7 feet and 4.0 feet, respectively.

The research performed prior to our field services indicated that the old fill underlying this portion of the site (the lower tier of the hollowfill) may have been placed during strip mining (or during the construction of Route 680). We would expect highway fill to contain a significant amount of large boulders within the fill mass. This was not the case at our boring and test pit locations as the old fill encountered primarily consisted of a mixture of soil and smaller rock fragments. However, we anticipate that deeper fills consisting of mine spoil (with a significant amount of large boulders) could be encountered at the higher elevations (upper tiers of the hollowfill) on-site.

Old fill materials are often improperly compacted, commonly contain organics and debris, and are poor bearing materials. The potential presence of mine spoil created as a result of deep mining also exists at the higher elevations on-site. Commonly, deep mining mine spoil

contains increased amounts of waste rock (consisting of poor quality coal and carbonaceous shale) within the fill. These materials make extremely poor bearing materials due to their increased compressibility. Also, if the organic content within these materials is significant, they can be hazardous pollutants (when exposed to water) as well as being potentially flammable.

Based on our experience, the risk associated with the proposed construction of the new school building may be decreased slightly from our original expectation (expressed in our Summary of Desktop Review report for the Stanley Allen Property) as the underlying old fill encountered at our boring locations did not resemble typical mine spoil or highway fill (i.e. - large boulders). However, this old fill material will not be suitable to support the project foundations and floor slabs due to the soft/wet, inconsistent nature of the old fill encountered during our field services.

We understand that the other hard structures (i.e. - the athletic facility's stadium seating, press box, etc.) are expected to be constructed at the higher elevations on-site. We expect that the risk associated with the construction of the other hard structures is increased due to the expected deep depths of mine spoil fill (perhaps 100 feet) in these areas. Additionally, the risk of poor pavement performance and the possibility of trip hazards created in the ball fields and grassy areas (due to the settlement of the mine spoil fill) is also increased with this site. Thus, the owner must realize this risk and be willing to accept it.

Soft and Wet Conditions

The site surface was generally soft/wet due to the wet weather experienced in the area prior to our field services. Thus, you should expect that the site will become very muddy and difficult to navigate after wet weather.

Additionally, inconsistent old fill and soft/wet underlying natural soils were encountered in our borings. These soils will provide inconsistent foundation support. These soils have the potential to compress if they are within the zone of influence of the project foundations, likely causing differential settlement. Thus, we expect that these soils will not be suitable to support the project foundations.

Groundwater

As previously mentioned, free water was encountered at four of our five boring locations (no water was encountered at boring B-101) upon completion of soil augering. The free water was encountered at depths ranging from 15 feet to 22 feet.

With sites underlain by relatively deep old fill, water conditions that usually affect construction and performance of projects consist of trapped/perched water zones which occur in variable areas in the old fill mass, at or near existing or former structures (i.e. the pond existing on-site), at or near the bedrock bedding planes, or at or near the soil/rock interface. Perched water sources are often not linked to the more continuous relatively stable groundwater table that typically occurs at greater depths. Site excavation activities or ground disturbance can expose these features and the resulting seepage can vary greatly.

Water issues are also dependent upon recent rainfall activity and surface and subsurface drainage patterns in the area. Additionally, the water level in our boring performed adjacent to the existing pond (B-105) was approximately 15 feet deep. Please note that this hole was not left open for 24 hours due to safety concerns for the property residents. Thus, no 24-hour water level reading was taken at this location. We would expect the groundwater level in the area around the existing pond would be similar to the water level within the pond. This water level should be expected to become more shallow after heavy rainfall events.

Pond Removal

As you are aware, a pond exists on-site which may (at least partially) lie within the proposed school building footprint. Based on our conversation with the property owner, the pond may be roughly 10-feet deep at the deepest point. We expect that this pond will require draining, mucking, and backfilling to construct the portion of the building pad in this area. You should expect that the old fill and natural soils underlying the pond will be saturated and will require some means of stabilization before new fill is placed in this area (primarily an earthwork issue).

Existing Mine Works

We reviewed publicly available maps from the Kentucky Mine Mapping Information System through their web site www.minemaps.ky.gov. These maps indicated strip mining on multiple seams and deep mining in the hills north, east and west of the proposed site.

Based on our mine map review, there are six coal seams that have been mined in the site vicinity. Three of these seams have been deep mined in the area. Of the three seams, one seam (Upper Elkhorn No. 1) occurred at or below the elevation of the lower tier of the hollowfill. The remaining two seams occur above the elevation of this lower tier. Our cursory mine map research did not indicate the presence of any deep mines directly below the expected project area. However, these maps are not completely accurate. Therefore, there is an inherent risk of deep mines in this area.

Additionally, we have spoken with Mr. Lynn Parrish (formerly with Coal Mac). Mr. Parrish was involved with the mining operations on-site. He explained that each of the three seams (Upper Elkhorn No. 1, 2, and 3) were strip mined in this area and near vertical highwalls were cut into the hillsides on-site. These areas were then mined utilizing auger mining or highwall miner techniques. Thus, we expect that there is a high likelihood of encountering remnants of auger mining (auger holes or highwall miner holes) along the adjacent hillsides if cuts into natural ground were to be performed in these areas. These voids in the coal seam will create unstable conditions for any cuts in the adjacent hillsides.

The presence of large volumes of trapped water is very common in abandoned deep mines or auger holes. Any mine openings currently exposed (if any) or exposed during construction will likely allow the intrusion of this trapped water onto the construction area. Often the volume of water contained within mines can be so great that they have the potential to drain nearly perpetually.

Acid mine drainage (AMD) is water that is polluted (low pH, high iron content, high sulfur content, etc.) from contact with mining activity, and normally associated with coal mining. AMD is a common form of water pollution in areas where vast amounts of underground mining took place in the past. Acid mine drainage is the formation and movement of highly acidic water rich in heavy metals. This water may be highly toxic and, when mixed with groundwater, surface water and soil, may have harmful effects on humans, animals and plants. Thus, if AMD is encountered during construction, remediation efforts will be required to mitigate the potential damage caused by pollutants contained within the water.

Also, it must be verified that any bonds or issues (i.e. - reclamation bonds, non-compliance issues, etc.) connected to the previous mining activities around the site have been released and no additional mining permits have been issued (or are in progress) for the site. If any bonds or permits are outstanding, the purchase and development of this property will not likely occur until these issues are satisfactorily resolved.

PRELIMINARY RECOMMENDATIONS

Based on the conditions encountered and our experience, we believe that the lower level of this site can be adapted for the proposed construction. However, site development costs will be higher when compared to a "normal" site. Due to the depth of the existing fill material encountered in our preliminary and intermediate borings overlying the soft natural soils at this project site, we expect that the building design will include drilled shaft foundations with grade beams and structural floor slabs.

Due to the significant amount of old fill existing on-site, we believe that it will be cost prohibitive to remove all of the old fill and replace it with new fill material. As such, we expect that the proposed pavements and structures planned at the higher elevations on-site (upper tiers of the hollowfill) will likely bear on the existing fill. As previously stated, our field services for this preliminary geotechnical exploration were limited to the lower elevations of the site previously identified as the most likely area for the location of the proposed school building. Thus, no drilling or test pit excavations were performed at the higher elevations (the upper tiers of the hollowfill) on-site. Once we have performed field services to address these proposed site improvements (i.e. - pavements, stadium, ball fields, etc.) we will include recommendations to reduce (but not eliminate) the risk associated with construction over old fill in our future report. Please note that if any old fill is to be left in-place, the Owner must assume the risk of construction over old fill and CSI harmless for poor structure/pavement performance created as a result of the existing old fill.

The following <u>preliminary recommendations</u> have been provided to facilitate the progression of the project preliminary design. Please note that the following recommendations are subject to change based on our findings during future phases of our geotechnical exploration.

<u>Drilled Shaft Foundations - Main Building Area (Lower Tier of the Hollowfill)</u>

Based on the information provided and the conditions encountered, we expect that the proposed foundations for the new school building will consist of drilled shaft foundations end-

bearing on competent bedrock. Thus, we have included preliminary recommendations for the design and construction of drilled shaft foundations.

At the time of this report, we have not been provided with the maximum anticipated column loads for the project. Based on the subsurface conditions encountered and CSI's experience with similar project conditions, CSI recommends the use of drilled shafts to support the proposed building bearing on the underlying bedrock formation. The following sections provide initial design and construction recommendations for deep foundations required for the structure.

Design Considerations for Rock-Bearing Foundations

Based on the drilling performed to date, we expect that the drilled shafts may be sized for an allowable end-bearing pressure of 40,000 pounds per square foot (40 ksf) for drilled shafts bearing on competent rock. Please note that this allowable bearing pressure is preliminary in nature and will be confirmed as a result of future field and laboratory services. This allowable bearing pressure is based on the assumption that the bearing material for each drilled shaft will be observed, evaluated, and approved by a CSI geotechnical engineer. Please note: Due to the anticipated geology on-site (i.e. - sandstone and shale with possible coal seams), test holes would typically be required to confirm that no coal seams exist at least 5-feet below the bearing elevation. Additionally, the bottoms of the drilled shafts would have to be inspected. Thus, a down-hole inspection will be required at drilled shaft locations.

The drilled shafts should bear at least 2 feet into rock (rock socket), bearing on competent rock for end-bearing performance under gravity loading conditions. We recommend a minimum drilled shaft diameter of 30 inches be used in the design to allow down-hole inspection of the bedrock. The following table shows our estimated design parameters for drilled shafts.

A CSI geotechnical engineer will check the probe hole using a hooked-end steel feeler rod to assess the rock continuity. If this check indicates a coal seam or discontinuous/compressible seam in the bedrock, the drilled shaft should be excavated deeper. Additional probe holes may be required by the CSI geotechnical engineer if the results indicate inconsistent bedrock conditions.

A detailed settlement analysis was beyond the scope of this exploration. However, based on the assumed structural loads and drilled shafts bearing on sound rock, we expect both total settlements and differential settlements will not exceed ¼ inch.

<u>Preliminary Recommendations for Grade Supported Slabs</u>

We expect that the floor slab of the main school building will be constructed as a structural floor slab. Thus, this floor slab will not be grade supported. However, we anticipate that portions of the proposed construction will include grade supported slabs (i.e. - sidewalks, loading docks, play areas, etc.). Grade supported slabs may be suitable for portions of the proposed construction. However, subgrade preparation and testing will be <u>extremely important</u> due to the deep old fill existing on-site.

As previously stated, deep old fill material was encountered on-site. We believe that it will be cost prohibitive to remove all of the old fill existing beneath the proposed site improvements. As such, site preparation and testing of the subgrade in these areas will be extremely important to identify inconsistent areas. Subgrade stabilization methods will likely be needed during construction to remedy poor subgrade conditions. As previously discussed, the risk associated with construction over old fill cannot be eliminated unless all the old fill existing beneath the project floor slabs is removed and replaced with newly and properly placed fill. If the old fill is left in-place, we can provide recommendations to lessen (but not eliminate) this risk. Thus, the Owner must be aware of this risk and be willing to accept it.

Based on our boring and test pit data, we expect that hard objects (i.e. - boulders) could be encountered at shallow depths in some areas on-site. If hard objects are encountered within 12 inches of finished subgrade elevation, we recommend that the hard objects be removed/ undercut at least 12 inches below subgrade and the excavation backfilled with compacted soil up to the design finished subgrade elevation to provide a "cushion". In no case should the floor slab bear on both soil and hard objects.

Preliminary Seismic Site Classification (Proposed School Building Location)

The latest edition of the Kentucky Building Code (KBC) was reviewed to determine the Site Seismic Classification. Based on our review of geologic data, our experience, subsurface conditions encountered, and drilled shaft foundations bearing on rock for the proposed school building, a **Preliminary Seismic SITE CLASS "C"** can be assumed for preliminary foundation design purposes.

A detailed geotechnical earthquake engineering analysis was not performed. However, based on a review of published literature and our experience with similar subsurface conditions, we believe the potential for slope instability, liquefaction, and surface rupture due to faulting or lateral spreading resulting from earthquake motions is low. This potential could be elevated during wet periods of the year unless adequate drainage is provided.

Preliminary Pavement Recommendations

We anticipate both light and heavy-duty pavements will be utilized for the proposed project. Again, we believe that it will be cost prohibitive to remove all of the old fill existing beneath the proposed site improvements. As such, site preparation and testing of the subgrade in these areas will be extremely important to identify inconsistent areas. Subgrade stabilization methods will likely be needed during construction to remedy poor subgrade conditions. As previously discussed, the risk associated with construction over old fill cannot be eliminated unless all the old fill existing beneath the project pavements is removed and replaced with newly and properly placed fill.

Due to the on-site old fill material, we expect low to moderate California Bearing Ratio (CBR) values (likely between approximately 3 to 5 percent). Thus, thicker than normal pavement sections may be necessary due to poor subgrade support and the presence of the mine spoil fill.

CONTINUATION OF GEOTECHNICAL SERVICES

This geotechnical exploration was preliminary in nature. Therefore, formal recommendations cannot be provided unless a full geotechnical exploration is performed which will likely include additional soil borings, rock coring, and possibly test pits. We expect that the final geotechnical exploration would include additional laboratory testing (likely including additional soil classification tests, standard Proctor test(s), California Bearing Ratio (CBR) test (s), and unconfined compressive strength tests on rock). Also, other rock testing (i.e. - Slake Durability Index and Jar Slake testing) will be needed if any highwall cuts are proposed for the project.

The following discusses our approach to the future phase of geotechnical services for the project. These services would include the performance of a significant number of borings to better understand the existing condition of the old fill, the underlying bedrock, and the presence of coal seams (or existing mine works) on-site. Also, the areas of proposed site improvements not yet explored will require borings, rock coring, and possibly test pits to gather subsurface data for these areas.

At this time, it is our understanding that the new school building will likely be placed along the lower tier of the hollowfill on-site. The building may be rectangular or T-shaped and the footprint of the new building will likely occupy the majority of this lower level. As such, we will need to perform additional borings within this lower level (within the proposed building footprint) in order to meet the Engineering Standard of Care. Thus, a proposed building footprint would be needed to estimate the number of borings required to meet the Standard of Care for the full geotechnical exploration. These additional borings will provide a substantial amount of soil and rock data, improving our understanding of the existing condition of the old fill and underlying bedrock on-site.

We understand that other site improvements are proposed at the upper tiers of the hollowfill. We expect that these areas are underlain by mine spoil fill consisting of a mixture of soil with large rock fragments (and possibly wood and/or other deleterious materials). However, we have not performed a subsurface exploration in these areas and cannot confirm the contents of this fill material. Thus, we would also recommend performing a combination of borings, rock coring, and test pits within the upper tiers of the hollowfill on-site to observe the condition of these upper levels of hollowfill.

Please note that we cannot confirm the presence (or absence) of underground mine works within the adjacent hillsides without performing borings (with rock coring) at higher elevations along the hillside. Additionally, the Upper Elkhorn No. 1 coal seam occurs at elevation at or below the elevation of the lower tier of the hollowfill. Thus, we have to assume that the geotechnical concerns associated with underground mine works remain a concern for the proposed site development. As such, we would recommend that borings be performed along the hillsides where potential cuts may be needed for the purposes of achieving the desired grades for the project. These borings (with rock coring) will attempt to verify the presence of coal seams (and possibly mine works/auger mining and highwall miner holes) within the hillsides. The presence of coal seams and/or mine works will drastically affect (if not eliminate) the ability to perform cuts into these hillsides. Note that we will

require a preliminary grading plan prior to performance of these borings in order to select the locations of the borings and/or rock cores.

CLOSURE

These initial observations should be used for informational purposes only and should not be considered as formal recommendations for construction on this project. Recommendations will be provided in our Final Geotechnical Report after we have performed the necessary field and laboratory services and discussed your risk-based choices for this project.

We appreciate the opportunity to provide our services to you and the design team. Please do not hesitate to contact us for questions or comments about the information contained herein.

Cordially,

Consulting Services Incorporated of Kentucky,

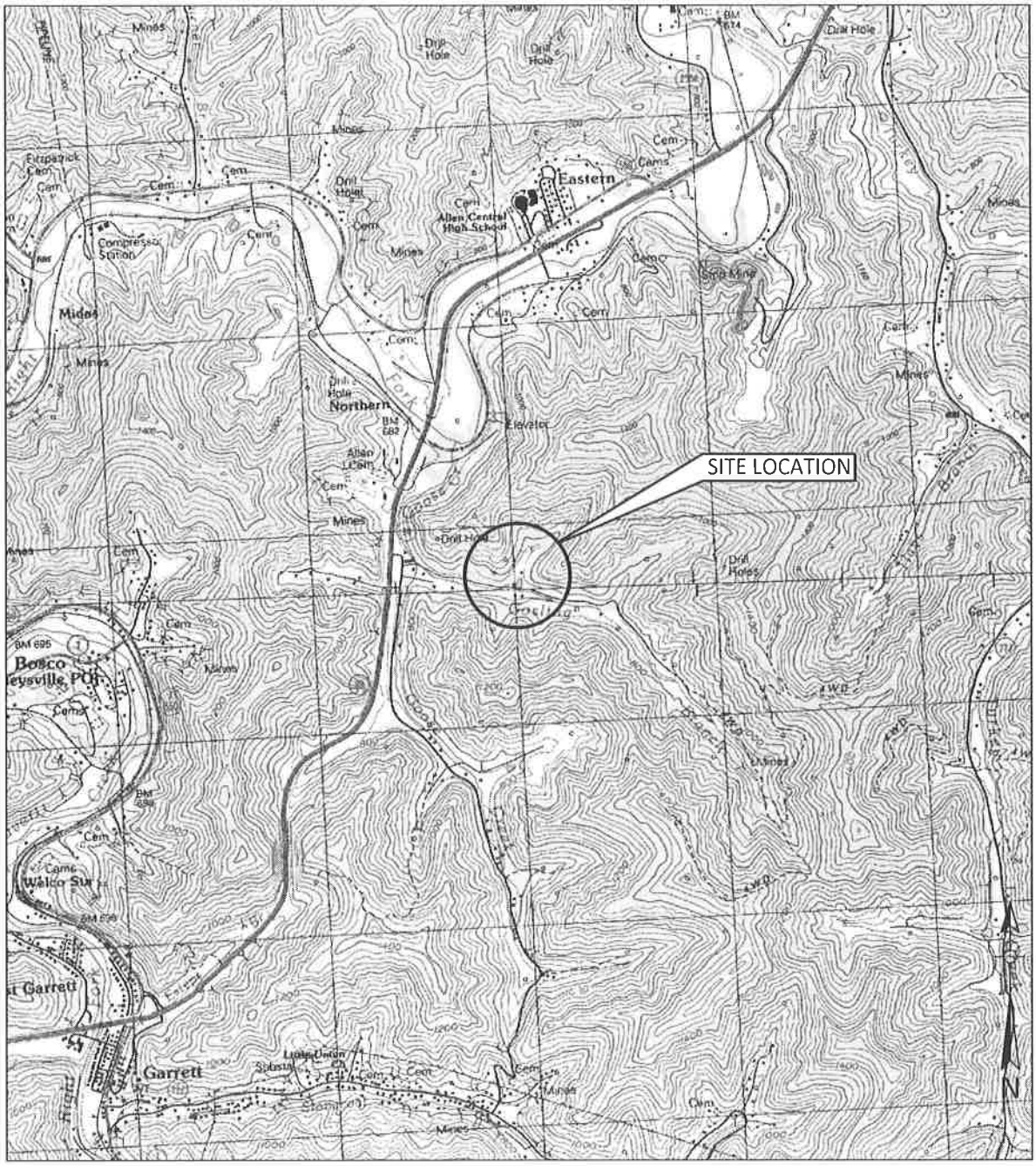
STATE OF KENTUCKY
BRUCE L. HATCHER
14,527
LICENSED PROFESSIONAL ENGINEER
4-2-14

J. Todd Helton, EIT, SI
Staff Professional

Joseph S. Cooke, PE
Principal/CEO

Bruce L. Hatcher, PE, SI
Chief Engineer
Licensed KY 14,527

Attachments:
- Site Location Plan
- Geotechnical Boring Information Sheet
- Boring and Test Pit Location Plan
- Boring Logs
- Test Pit Logs
- Field Testing Procedures
- Laboratory Testing Summary Sheet
- Specific Laboratory Testing Sheet
- Laboratory Testing Procedures



Site Location Plan adapted from USGS Martin and Wayland Topographic Quadrangle maps (both dated 1992), with further adaptation by CSI personnel.

FOR ILLUSTRATION PURPOSES ONLY

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TITLE: SITE LOCATION PLAN		Project No: LX140100	Drawn By: JAC
PROJECT: FLOYD COUNTY HIGH SCHOOL STANLEY ALLEN PROPERTY EASTERN, KENTUCKY		Date: April 2, 2014	Checked By: JTH
		Scale: Not To Scale	Drawing No: 1 of 1

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Geotechnical Boring Information Sheet

Sample Type Symbols	
Splitspoon (SPT)	
Dynamic Cone Penetrometer (DCP)	
Shelby Tube	
Grab	
Bulk	
Rock Core	

Surface Symbols
Topsoil
Asphalt
Concrete
Lean Clay
Fat Clay
Sandy Clay
Silt
Elastic Silt
Lean Clay to Fat Clay
Gravelly Clay
Sandy Silt
Gravelly Silt
Sand
Gravel
Fill
Void
Limestone
Sandstone
Shale/Siltstone
Weathered Rock

Samples Strength Descriptors	N
Cohesive Soils:	
Very Soft	0-1
Soft	2-4
Firm	5-8
Stiff	9-15
Very Stiff	16-30
Hard	31+
Non-cohesive Soils:	
Very Loose	0-4
Loose	5-10
Firm	11-20
Very Firm	21-30
Dense	30-50
Very Dense	51+

Definitions

SPT-"Splitspoon" or standard penetration test. Blow counts are number of drops required for a 140 lb hammer dropping 30 inches to drive the sampler 6 inches.

N-value is the addition of the last two intervals of the 18-inch sample.

Shelby tubes are often called "undisturbed samples". They are directly pushed into the ground, twisted, allowed to rest for a small period of time and then pulled out of the ground. Tops and bottoms are cleaned and then sealed.

Sample classification is done in general accordance with ASTM D2487 and 2488 using the Unified Soil Classification System (USCS) as a general guide.

Soil moisture descriptions are based on the recovered sample observations. The descriptors are dry, slightly moist, moist, very moist and wet. These are typically based on relative estimates of the moisture condition of a visual estimation of the soils optimum moisture content (EOMC). Dry is almost in a "dusty" condition usually 6 or more percent below EOMC. Slightly moist is from about 6 to 2 percent below EOMC at a point at which the soil color does not readily change with the addition of water. Moist is usually 2 percent below to 2 percent above EOMC and the point at which the soil will tend to begin forming "balls" under some pressure in the hand. Very moist is usually from about 2 percent to 6 percent above EOMC and also the point at which it's often considered "muddy". Wet soil is usually 6 or more percent above EOMC and often contains free water or the soil is in a saturated state.

Silt or Clay is defined at material finer than a standard #200 US sieve (<0.075mm) Sand is defined as material between the size of #200 sieve up to #4 sieve. Gravel is from #4 size sieve material to 3". Cobbles are from 3" to 12". Boulders are over 12".

Rock hardness is classified as follows:

Very Soft:	Easily broken by hand pressure
Soft:	Ends can be broken by hand pressure; easily broken with hammer
Medium:	Ends easily broken with hammer; middle requires moderate blow
Hard:	Ends require moderate hammer blow; middle requires several blows
Very Hard:	Many blows with a hammer required to break core

Rock Quality Designation (RQD) is defined as total combined length of 4" or longer pieces of core divided by the total core run length; defined in percentage.

Water or cave-in observed in borings is at completion of drilling each boring unless otherwise noted.

Strata lengths shown on borings represents a rough estimate. Transition may be more abrupt or gradual. Soil borings are representative of that estimated location at that time and are based on recovered samples. Conditions may be different between borings and between sample intervals. Boring information is not to be considered stand alone but should be taken in context with comments and information in the geotechnical report and the means by which the borings are logged, sampled and drilled.

Boring and Test Pit Location Plan adapted from Aerial Photography dated 2010, with further adaptation by CSI personnel.

LEGEND
B-XXX BORING LOCATIONS
TP-XXX TEST PIT LOCATIONS

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TITLE: BORING AND TEST PIT LOCATION PLAN	Project No: LX140100	Drawn By: JAC
PROJECT: FLOYD COUNTY HIGH SCHOOL STANLEY ALLEN PROPERTY EASTERN, KENTUCKY	Date: April 2, 2014	Checked By: JTH
	Scale: Not To Scale	Drawing No: 1 of 1

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Boring Log

858 Contract Street | Lexington, Kentucky 40505 | 859.309.6021 tel | 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
BORING NUMBER: B-101
LOCATION: Eastern, Ky
WEATHER: Cloudy - 30's
DRILL RIG TYPE: CME-550
DRILLER: Geo-Drill
DATE DRILLED: 3-17-2014
DRILLING METHOD: 3 1/4" ID HSA
CSI FIELD REP: T. Helton
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 764.57

ELEV. (feet)	DEPTH (feet)	Water Level	Strata Description	SOIL TYPE	SAMPLES	SPT Blow Counts	Recovery (in)	RQD (%)	Notes
764.57	0		FILL - sampled as STIFF, light brown and gray clay, with few wood fragments, with sand, with gravel, moist			4-4-6	12		Dry upon completion of soil augering
						5-7-7	12		
			FILL - sampled as STIFF, black silt, with coal fragments, moist						
760.57	4		FILL - sampled as STIFF to HARD, light brown and gray clay, with shale fragments, moist			7-7-33	13		
			HIGHLY WEATHERED SHALE and SANDSTONE			50/0.2	2		
756.57	8		Encountered hard augering from 6.7 to 7.5 feet			36-50/0.2	7		
752.57	12								
			Weathered Rock			50/0.3	2		
748.57	16								
			Auger Refusal at 18.8 feet Begin Coring at 18.8 feet			Run No.	Recovery (%)	RQD (%)	No core water loss observed
744.57	20		SANDSTONE - medium gray and light brown, coarse grained			1 (18.8'-28.8')	99	77	
740.57	24								
736.57	28		Coring Terminated at 28.8 feet						

Photo of Approx. Boring Location

Please note: Boring log is for information only. Soil borings only show conditions observed in specific recovered samples at that particular location. Elevations were provided by the project surveyor, Bocook Engineering.

Consulting Services Inc. of Kentucky — Boring Log

858 Contract Street I Lexington, Kentucky 40505 I 859.309.6021 tel I 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
BORING NUMBER: B-102
LOCATION: Eastern, Ky
WEATHER: Cloudy - 30's
DRILL RIG TYPE: CME-550
DRILLER: Geo-Drill
DATE DRILLED: 3-17-2014
DRILLING METHOD: 3 1/4" ID HSA
CSI FIELD REP: T. Helton
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 763.17

ELEV. (feet)	DEPTH (feet)	Water Level	Strata Description	SOIL TYPE	SAMPLES	SPT Blow Counts	Recovery (in)	RQD (%)	Notes
763.17	0		ROOT ZONE - 3 inches			2-4-6	12		
			FILL - sampled as STIFF to FIRM with VERY STIFF zone, brown and gray clay, with shale and sandstone fragments, with sand, moist to wet			5-6-7	11		
						2-5-7	12		
757.17	6					2-3-5	10		
						2-3-3	9		
751.17	12					7-10-13	4		
						3-5-7	13		
						1-2-5	13		
745.17	18					6-14-15	12		
		▽				1-2-3	15		Encountered water at 22.0 feet
739.17	24					2-3-5	14		
			POSSIBLE FILL - sampled as FIRM, green-gray and brown silty clay, with sand, with rock fragments, moist			6-5-3	10		
733.17	30		SILTY CLAY (CL-ML) - FIRM to HARD, green-gray, with sand, with few sandstone fragments, moist			1-50/0.2	8		
			Weathered Rock						
			Auger Refusal at 34.3 feet			Run No.	Recovery (%)	RQD (%)	No core water loss observed
727.17	36		Begin Coring at 34.3 feet						
			SANDSTONE - blue-gray, with brown staining, coarse to medium grained			1 (34.3'-39.3')	100	93	Photo of Approx. Boring Location
						2 (39.3'-44.3')	95	88	
721.17	42								
			Coring Terminated at 44.3 feet						

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PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
BORING NUMBER: B-103
LOCATION: Eastern, Ky
WEATHER: Cloudy - 30's
DRILL RIG TYPE: CME-550
DRILLER: Geo-Drill
DATE DRILLED: 3-17-2014
DRILLING METHOD: 3 1/4" ID HSA
CSI FIELD REP: T. Helton
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 759.76

ELEV. (feet)	DEPTH (feet)	Water Level	Strata Description	SOIL TYPE	SAMPLES	SPT Blow Counts	Recovery (in)	RQD (%)	Notes
759.76	0		ROOT ZONE - 2 inches			3-3-3	13		
			FILL - sampled as FIRM with STIFF and SOFT zones, brown and gray clay, with sand, with a few wood fragments, with gravel, with few coal fragments, moist to wet			1-2-1	8		
						2-4-2	16		
753.76	6					2-3-6	13		
						2-3-3	12		
747.76	12					4-5-6	10		
		▽							Encounterd water at 16.0 feet
741.76	18		POSSIBLE FILL - sampled as VERY STIFF, brown sandy clay, with gravel, wet			8-9-8	12		
			Weathered Rock						
735.76	24					50/0.2	2		Sheared off auger in boring (could not be retrieved)
729.76	30		Auger Refusal at 29.3 feet Begin Coring at 29.3 feet			Run No.	Recovery (%)	RQD (%)	No core water loss observed
			SANDSTONE - blue-gray, with brown staining, coarse grained			1 (29.3'-34.3')	100	78	Qu = 1,043 ksf
						2 (34.3'-39.3')	90	78	
723.76	36		SHALE - dark gray, clayey Coring Terminated at 39.3 feet						
717.76	42								

Photo of Approx. Boring Location

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PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
BORING NUMBER: B-104
LOCATION: Eastern, Ky
WEATHER: Cloudy - 30's
DRILL RIG TYPE: CME-550
DRILLER: Geo-Drill
DATE DRILLED: 3-1-2014
DRILLING METHOD: 3 1/4" ID HSA
CSI FIELD REP: T. Helton
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 766.31

ELEV. (feet)	DEPTH (feet)	Water Level	Strata Description	SOIL TYPE	SAMPLES	SPT Blow Counts	Recovery (in)	RQD (%)	Notes
766.31	0		ROOT ZONE - 1 inch			6-9-6	9		
			FILL - sampled as VERY STIFF to SOFT with FIRM zones, brown and gray clay, with sand, with rock fragments, moist to wet			50/0.3	3		
						50/0.2	2		
760.31	6		Hard object (boulder) at 1.8 to 3.0 feet Hard object (boulder) at 4.2 to 5.1 feet			2-3-5	13		
			Wood fragments (6.5 feet to 13.0 feet)			2-3-17	13		
754.31	12					10-7-10	16		
						5-4-3	3		
						3-4-4	15		
748.31	18					1-2-5	14		
		▽				4-3-2	4		Encountered water at 21.0 feet
742.31	24					4-3-1	10		
			SILTY CLAY (CL-ML) - gray, with sand, with rock fragments, wet						
736.31	30		Weathered Rock			50/0.1	1		
			Auger Refusal at 32.2 feet Begin Coring at 32.2 feet			Run No.	Recovery (%)	RQD (%)	No core water loss observed
730.31	36		SANDSTONE - medium gray to light gray, with interbedded shale, coarse to medium grained			1 (32.2'-42.2')	96	78	
			SHALE - light gray, sandy						
724.31	42		SANDSTONE - light gray, coarse grained						
			Coring Terminated at 42.2 feet						

Photo of Approx. Boring Location

Please note: Boring log is for information only. Soil borings only show conditions observed in specific recovered samples at that particular location. Elevations were provided by the project surveyor, Bocook Engineering.

Consulting Services Inc. of Kentucky — Boring Log

858 Contract Street | Lexington, Kentucky 40505 | 859.309.6021 tel | 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
BORING NUMBER: B-105
LOCATION: Eastern, Ky
WEATHER: Cloudy - 30's
DRILL RIG TYPE: CME-550
DRILLER: Geo-Drill
DATE DRILLED: 3-19-2014
DRILLING METHOD: 3 1/4" ID HSA
CSI FIELD REP: T. Helton
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 771.70

ELEV. (feet)	DEPTH (feet)	Water Level	Strata Description	SOIL TYPE	SAMPLES	SPT Blow Counts	Recovery (in)	RQD (%)	Notes
771.7	0		ROOT ZONE - 1 inches			2-6-7	12		
			FILL - sampled as FIRM to STIFF, brown and gray clay, with sand, with rock fragments, with few wood fragments, moist			5-3-3	8		
						2-1-4	6		
765.7	6					1-2-3	12		
						1-2-7	14		
759.7	12					3-3-4	14		
		▽				2-2-3	10		Encountered water at 15.0 feet
753.7	18					1-1-1	1		
			SILTY CLAY (CL-ML) - SOFT to FIRM gray, with sand, with rock fragments, with gravel, wet to moist			WOR-WOR-2	16		WOR=Weight Of Rods
						WOR-WOR-1	14		WOR=Weight Of Rods
747.7	24					4-4-4	9		
						2-3-5	10		
741.7	30		LEAN CLAY (CL) - sandy, gray with blue gray mottling, moist						
			Weathered Rock						
			Auger Refusal at 33.7 feet Begin Coring at 33.7 feet			Run No.	Recovery (%)	RQD (%)	No core water loss observed
735.7	36		SANDSTONE - blue gray, with interbedded shale, coarse grained			1 (33.7'-43.7')	94	91	Photo of Approx. Boring Location
729.7	42		Coring Terminated at 43.7 feet						

Please note: Boring log is for information only. Soil borings only show conditions observed in specific recovered samples at that particular location.
Elevations were provided by the project surveyor, Bocook Engineering.

Consulting Services Inc. of Kentucky

Test Pit Log

858 Contract Street | Lexington, Kentucky 40505 | 859.309.6021 tel | 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
TEST PIT NUMBER: TP-1
LOCATION: Eastern, Ky
WEATHER: Sunny, 50's
EXCAVATOR TYPE: Case 580N Backhoe
CONTRACTOR: CSI Personnnel
DATE EXCAVATED: 03-19-2014
TESTING METHODS: N/A
CSI FIELD REP: D. Homm
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 764.10

ELEV. (feet)	DEPTH (feet)	Water Level	SOIL TYPE	Strata Description
764	0			FILL - orangish brown and gray clay, with sand, with fine roots, with a piece of wood (maximum dimension of 3 inches diameter, 2 feet long), with rock fragments (maximum dimension of 1 foot), moist
762	2			
760	4			LEAN CLAY (CL) - light gray, with rock fragments, with sand, with highly weatherd rock, moist
758	6			
756	8			Test Pit Terminated at 8.2 feet (extent of excavator)
754	10			
752	12			
750	14			

NOTES:

Dry upon completion of soil excavation

Photo of Test Pit Material

Photo of Test Pit

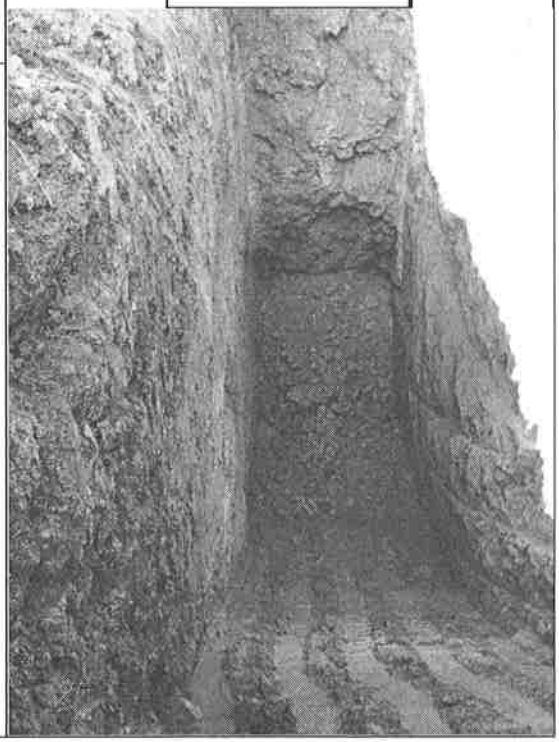


Photo of Approx. Test Pit Location

Please Note: Test Pit Log is for information only. Test Pit log only shows conditions observed at that particular location. Elevations were provided by project surveyor, Bocook Engineering.

Consulting Services Inc. of Kentucky

Test Pit Log

858 Contract Street | Lexington, Kentucky 40505 | 859.309.6021 tel | 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
TEST PIT NUMBER: TP-2
LOCATION: Eastern, Ky
WEATHER: Sunny, 50's
EXCAVATOR TYPE: Case 580N Backhoe
CONTRACTOR: CSI Personnnel
DATE EXCAVATED: 03-19-2014
TESTING METHODS: N/A
CSI FIELD REP: D. Homm
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 763.47

ELEV. (feet)	DEPTH (feet)	Water Level	SOIL TYPE	Strata Description	NOTES:
	0			FILL - orangish brown and gray clay, with sand, with fine roots, with rock fragments (maximum dimension of 2.5 feet), moist	Dry upon completion of soil excavation
762	2				
760	4				
758	6				
756	8			Test Pit Terminated at 7.8 feet (extent of excavator)	
754	10				
752	12				
750	14				

Photo of Test Pit Material

Photo of Test Pit

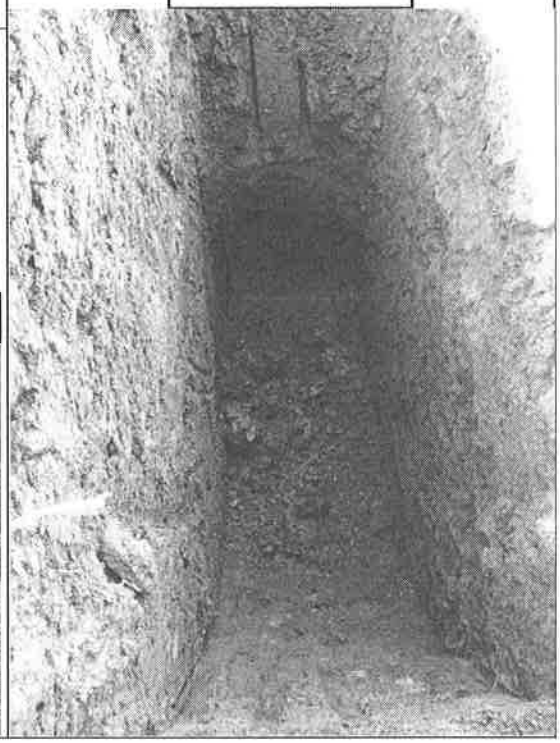


Photo of Approx. Test Pit Location

Please Note: Test Pit Log is for information only. Test Pit log only shows conditions observed at that particular location.
Elevations were provided by project surveyor, Bocook Engineering.

Consulting Services Inc. of Kentucky

Test Pit Log

858 Contract Street | Lexington, Kentucky 40505 | 859.309.6021 tel | 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
TEST PIT NUMBER: TP-3
LOCATION: Eastern, Ky
WEATHER: Sunny, 50's
EXCAVATOR TYPE: Case 580N Backhoe
CONTRACTOR: CSI Personnnel
DATE EXCAVATED: 03-19-2014
TESTING METHODS: N/A
CSI FIELD REP: D. Homm
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 760.05

ELEV. (feet)	DEPTH (feet)	Water Level	SOIL TYPE	Strata Description	NOTES:
760	0			FILL - orangish brown and gray clay, with sand, with fine roots, with pieces of wood (maximum dimension of 6 inches), with rock fragments (maximum dimension of 1 foot), moist	Dry upon completion of soil excavation
758	2				
756	4				
754	6				
752	8			Test Pit Terminated at 7.8 feet (extent of excavator)	
750	10				
748	12				
746	14				

Photo of Test Pit Material

Photo of Test Pit

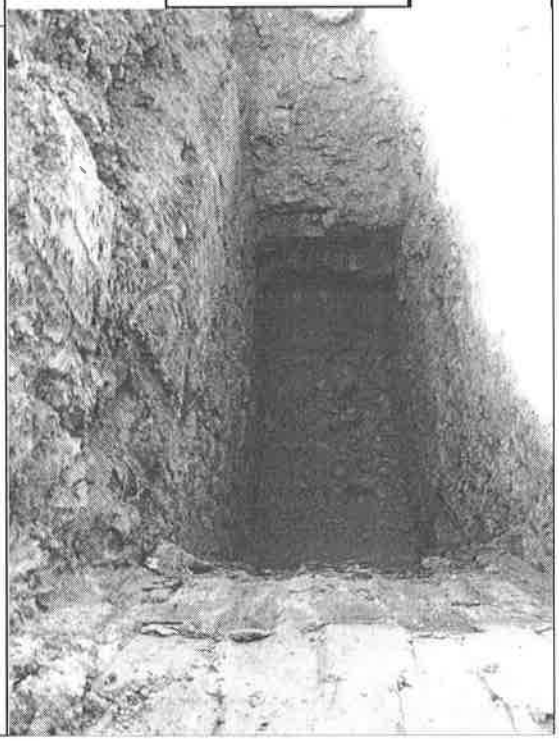


Photo of Approx. Test Pit Location

Please Note: Test Pit Log is for information only. Test Pit log only shows conditions observed at that particular location. Elevations were provided by project surveyor, Bocook Engineering.

Consulting Services Inc. of Kentucky

Test Pit Log

858 Contract Street | Lexington, Kentucky 40505 | 859.309.6021 tel | 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
TEST PIT NUMBER: TP-4
LOCATION: Eastern, Ky
WEATHER: Sunny, 50's
EXCAVATOR TYPE: Case 580N Backhoe
CONTRACTOR: CSI Personnnel
DATE EXCAVATED: 03-19-2014
TESTING METHODS: N/A
CSI FIELD REP: D. Homm
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 766.66

ELEV (feet)	DEPTH (feet)	Water Level	SOIL TYPE	Strata Description	NOTES:
	0			FILL - orangish brown mixed with gray clay, with topsoil, with sand, with fine roots, with pieces of wood (maximum dimension of 1.5 feet), with rock fragments (maximum dimension of 2.0 feet), with tree roots (maximun dimension of 3 inches diameter, 3 feet long), moist	Dry upon completion of soil excavation
766					
	2				
764					
	4				
762					
	6				
760					
	8				
758				Test Pit Terminated at 8.3 feet (extent of excavator)	
	10				
756					
	12				
754					
	14				
752					

Photo of Test Pit Material

Photo of Test Pit

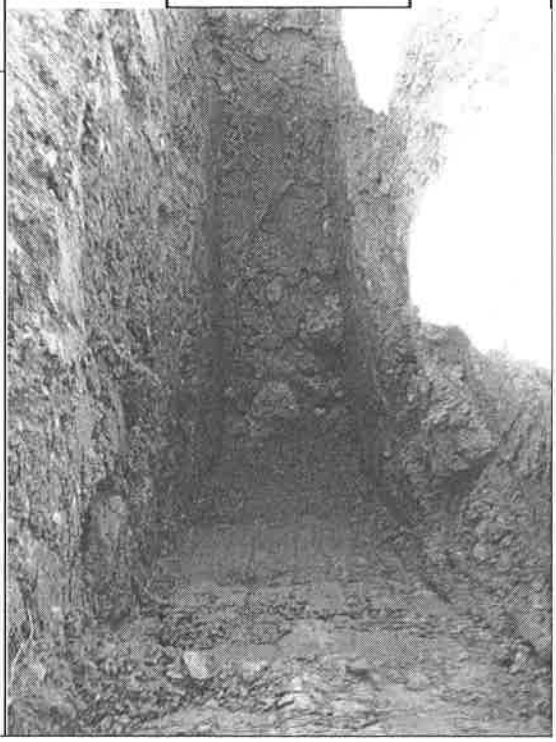
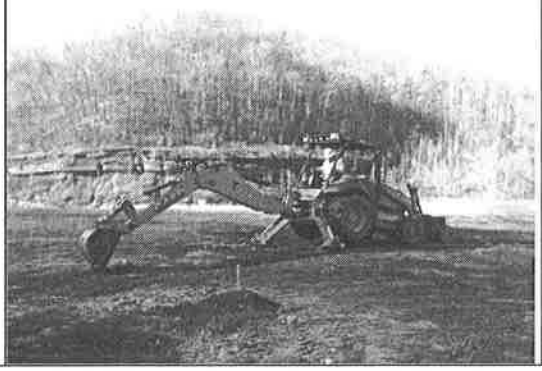


Photo of Approx. Test Pit Location



Please Note: Test Pit Log is for information only. Test Pit log only shows conditions observed at that particular location. Elevations were provided by project surveyor, Bocook Engineering.

Consulting Services Inc. of Kentucky

Test Pit Log

858 Contract Street | Lexington, Kentucky 40505 | 859.309.6021 tel | 888.792.3121 fax

PROJECT: Floyd Co. HS - Stanley Allen Property
PROJECT NUMBER: LX140100
TEST PIT NUMBER: TP-5
LOCATION: Eastern, Ky
WEATHER: Sunny, 50's
EXCAVATOR TYPE: Case 580N Backhoe
CONTRACTOR: CSI Personnnel
DATE EXCAVATED: 03-19-2014
TESTING METHODS: N/A
CSI FIELD REP: D. Homm
CLIENT: Floyd County Schools

TOP OF GROUND ELEVATION: 761.19

ELEV. (feet)	DEPTH (feet)	Water Level	SOIL TYPE	Strata Description	NOTES:
	0			FILL - brown and gray clay, with sand, with fine roots, with coal fragments, with rock fragments (maximum dimension of 1.0 feet), moist	Dry upon completion of soil excavation
760					
	2				
758					
	4				
756					
	6				
754					
	8			Test Pit Terminated at 7.8 feet (extent of excavator)	
752					
	10				
750					
	12				
748					
	14				
746					

Photo of Test Pit Material

Photo of Test Pit

Photo of Approx. Test Pit Location

Please Note: Test Pit Log is for information only. Test Pit log only shows conditions observed at that particular location.
Elevations were provided by project surveyor, Bocook Engineering.

FIELD TESTING PROCEDURES

Field Operations: The general field procedures employed by CSI are summarized in ASTM D 420 which is entitled "Investigating and Sampling Soils and Rocks for Engineering Purposes." This recommended practice lists recognized methods for determining soil and rock distribution and ground water conditions. These methods include geophysical and in situ methods as well as borings.

Borings are drilled to obtain subsurface samples using one of several alternate techniques depending upon the subsurface conditions. These techniques are:

a. Continuous 2-1/2 or 3-1/4 inch I.D. hollow stem augers;

b. Wash borings using roller cone or drag bits (mud or water);

c. Continuous flight augers (ASTM D 1425).

These drilling methods are not capable of penetrating through material designated as "refusal materials." Refusal, thus indicated, may result from hard cemented soil, soft weathered rock, coarse gravel or boulders, thin rock seams, or the upper surface of sound continuous rock. Core drilling procedures are required to determine the character and continuity of refusal materials.

The subsurface conditions encountered during drilling are reported on a field test boring record by the chief driller. The record contains information concerning the boring method, samples attempted and recovered, indications of the presence of various materials such as coarse gravel, cobbles, etc., and observations between samples. Therefore, these boring records contain both factual and interpretive information. The field boring records are on file in our office.

The soil and rock samples plus the field boring records are reviewed by a geotechnical engineer. The engineer classifies the soils in general accordance with the procedures outlined in ASTM D 2488 and prepares the final boring records which are the basis for all evaluations and recommendations.

The final boring records represent our interpretation of the contents of the field records based on the results of the engineering examinations and tests of the field samples. These records depict subsurface conditions at the specific locations and at the particular time when drilled. Soil conditions at other locations may differ from conditions occurring at these boring locations. Also, the passage of time may result in a change in the subsurface soil and ground water conditions at these boring locations. The lines designating the interface between soil or refusal materials on the records and on profiles represent approximate boundaries. The transition between materials may be gradual. The final boring records are included with this report.

The detailed data collection methods using during this study are discussed on the following pages.

Soil Test Borings: Soil test borings were made at the site at locations shown on the attached Boring Plan. Soil sampling and penetration testing were performed in accordance with ASTM D 1586.

The borings were made by mechanically twisting a hollow stem steel auger into the soil. At regular intervals, the drilling tools were removed and soil samples obtained with a standard 1.4 inch I.D., 2 inch O.D., split tube sampler. The sampler was first seated 6 inches to penetrate any loose cuttings, then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot was recorded and is designated the "penetration resistance". The penetration resistance, when properly evaluated, is an index to the soil strength and foundation supporting capability.

Representative portions of the soil samples, thus obtained, were placed in glass jars and transported to the laboratory. In the laboratory, the samples were examined to verify the driller's field classifications. Test Boring Records are attached which graphically show the soil descriptions and penetration resistances.

Core Drilling: Refusal materials are materials that cannot be penetrated with the soil drilling methods employed. Refusal, thus indicated, may result from hard cemented soil, soft weathered rock, coarse gravel or boulders, thin rock seams or the upper surface of sound continuous rock. Core drilling procedures are required to determine the character and continuity of refusal materials.

Prior to coring, casing is set in the drilled hole through the overburden soils, if necessary, to keep the hole from caving. Refusal materials are then cored according to ASTM D 2113 using a diamond-studded bit fastened to the

end of a hollow double tube core barrel. This device is rotated at high speeds, and the cuttings are brought to the surface by circulating water. Core samples of the material penetrated are protected and retained in the swivel-mounted inner tube. Upon completion of each drill run, the core barrel is brought to the surface, the core recovered is measured, the samples are removed and the core is placed in boxes for storage.

The core samples are returned to our laboratory where the refusal material is identified and the percent core recovery and rock quality designation is determined by a soils engineer or geologist. The percent core recovery is the ratio of the sample length obtained to the depth drilled, expressed as a percent. The rock quality designation (RQD) is obtained by summing up the length of core recovered, including only the pieces of core which are four inches or longer, and dividing by the total length drilled. The percent core recovery and RQD are related to soundness and continuity of the refusal material. Refusal material descriptions, recoveries, and RQDs are shown on the "Test Boring Records".

Hand Auger Borings and Dynamic Cone Penetration Testing: Hand auger borings are performed manually by CSI field personnel. This consists of manually twisting hand auger tools into the subsurface and extracting "grab" or baggie samples at intervals determined by the project engineer. At the sample intervals, dynamic cone penetration (DCP) testing is performed. This testing involves the manual raising and dropping of a 20 pound hammer, 18 inches. This "driver" head drives a solid-1¾ inch diameter cone into the ground. DCP "counts" are the number of drops it takes for the hammer to drive three 1¾ inch increments, recorded as X-Y-Z values.

Test Pits: Test pits are excavated by the equipment available, often a backhoe or trackhoe. The dimensions of the test pits are based on the equipment used and the power capacity of the equipment. Samples are taken from the spoils of typical buckets of the excavator and sealed in jars or "Ziplock" baggies. Dynamic Cone Penetration or hand probe testing is often performed in the upper few feet as OSHA standards allow. Refusal is deemed as the lack of advancement of the equipment with reasonable to full machine effort.

Water Level Readings: Water table readings are normally taken in conjunction with borings and are recorded on the "Test Boring Records". These readings indicate the approximate location of the hydrostatic water table at the time of our field investigation. Where impervious soils are encountered (clayey soils) the amount of water seepage into the boring is small, and it is generally not possible to establish the location of the hydrostatic water table through water level readings. The ground water table may also be dependent upon the amount of precipitation at the site during a particular period of time. Fluctuations in the water table should be expected with variations in precipitation, surface run-off, evaporation and other factors.

The time of boring water level reported on the boring records is determined by field crews as the drilling tools are advanced. The time of boring water level is detected by changes in the drilling rate, soil samples obtained, etc. Additional water table readings are generally obtained at least 24 hours after the borings are completed. The time lag of at least 24 hours is used to permit stabilization of the ground water table which has been disrupted by the drilling operations. The readings are taken by dropping a weighted line down the boring or using an electrical probe to detect the water level surface.

Occasionally the borings will cave-in, preventing water level readings from being obtained or trapping drilling water above the caved-in zone. The cave-in depth is also measured and recorded on the boring records.

Consulting Services Incorporated
858 Contract Street, Lexington, Kentucky 40505

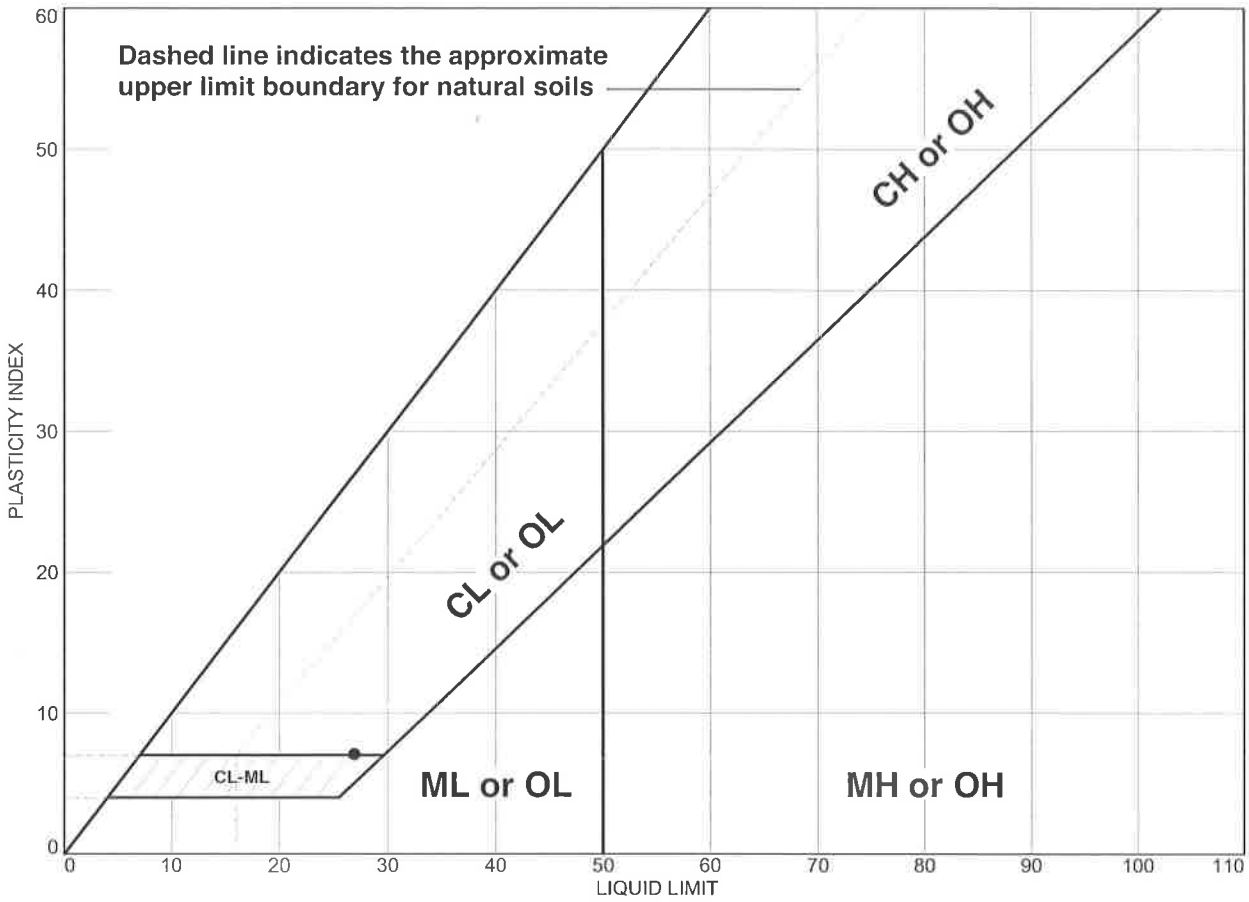
LABORATORY TESTING SUMMARY SHEET

Allen Central Property - Eastern, Kentucky
CSI PROJECT NUMBER - LX140100

Boring No.	Depth (feet)	Sample Type*	USCS Classification	Natural Moisture Content %	% Finer No. 200	Atterberg Limits Information			CBR (% @ 0.10)	Max. DD (pcf)	OMC (%)	Qu (ksf)
						LL	PL	PI				
B-102	0.0-1.5	SS		15.8								
	1.5-3.0	SS		15.7								
	4.0-5.5	SS		15.8								
	6.5-8.0	SS		15.5								
	9.0-10.5	SS		16.1								
	11.5-13.0	SS		19.1								
	14.0-15.5	SS		14.8								
	16.5-18.0	SS		19.6								
	19.0-20.5	SS		13.8								
	21.5-23.0	SS		30.8								
	24.0-25.5	SS		22.8								
	26.5-28.0	SS		17.5								
	29.0-29.7	SS		21.6								
B-103	32.5-33.3	CORE										1,043
B-105	0.0-1.5	SS		16.2								
	1.5-3.0	SS		15.7								
	4.0-5.5	SS		23.9								
	6.5-8.0	SS		20.8								
	9.0-10.5	SS		18.3								
	11.5-13.0	SS		18.6								
	14.0-15.5	SS		18.9								
	19.0-20.5	SS	CL-ML	35.3	78.0	27	20	7				
	21.5-23.0	SS		34.3								
	24.0-25.5	SS		19.1								
	29.0-30.5	SS		22.8								

* SS = splitspoon sample, UD = undisturbed (Shelby tube) sample, BULK = bulk sample, GRAB = grab sample, CORE = rock core sample

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	gray SILTY CLAY with sand	27	20	7		78.0	CL-ML

Project No. LX140100 **Client:** Floyd County Schools

Project: Stanley Allen Property - Eastern, Kentucky

Remarks:

●**Source of Sample:** Borings **Depth:** 19.0-20.5 **Sample Number:** B-105

CSI of Kentucky

Lexington, KY

Figure

LABORATORY TESTING PROCEDURES

Soil Classification: Soil classifications provide a general guide to the engineering properties of various soil types and enable the engineer to apply past experience to current problems. In our investigations, samples obtained during drilling operations are examined in our laboratory and visually classified by an engineer. The soils are classified according to consistency (based on number of blows from standard penetration tests), color and texture. These classification descriptions are included on our "Test Boring Records."

The classification system discussed above is primarily qualitative and for detailed soil classification two laboratory tests are necessary: grain size tests and plasticity tests. Using these test results the soil can be classified according to the AASHTO or Unified Classification Systems (ASTM D 2487). Each of these classification systems and the in-place physical soil properties provides an index for estimating the soil's behavior. The soil classification and physical properties obtained are presented in this report.

Rock Classification: Rock classifications provide a general guide to the engineering properties of various rock types and enable the engineer to apply past experience to current situations. In our explorations, rock core samples obtained during drilling operations are examined in our laboratory and visually classified by an engineer. The rock cores are classified according to relative hardness and RQD (see Guide to Rock Classification Terminology), color, and texture. These classification descriptions are included on our Test Boring Records.

Atterberg Limits: Portions of the samples are taken for Atterberg Limits testing to determine the plasticity characteristics of the soil. The plasticity index (PI) is the range of moisture content over which the soil deforms as a plastic material. It is bracketed by the liquid limit (LL) and the plastic limit (PL). The liquid limit is the moisture content at which the soil becomes sufficiently "wet" to flow as a heavy viscous fluid. The plastic limit is the lowest moisture content at which the soil is sufficiently plastic to be manually rolled into tiny threads. The liquid limit and plastic limit are determined in accordance with ASTM D 4318.

Moisture Content: The Moisture Content is determined according to ASTM D 2216.

Percent Finer Than 200 Sieve: Selected samples of soils are washed through a number 200 sieve to determine the percentage of material less than 0.074 mm in diameter.

Rock Strength Tests: To obtain strength data for rock materials encountered, unconfined compression tests are performed on selected samples. In the unconfined compression test, a cylindrical portion of the rock core is subjected to increasing axial load until it fails. The pressure required to produce failure is recorded, corrected for the length to diameter ratio of the core and reported.

Compaction Tests: Compaction tests are run on representative soil samples to determine the dry density obtained by a uniform compactive effort at varying moisture contents. The results of the test are used to determine the moisture content and unit weight desired in the field for similar soils. Proper field compaction is necessary to decrease future settlements, increase the shear strength of the soil and decrease the permeability of the soil.

The two most commonly used compaction tests are the Standard Proctor test and the Modified Proctor test. They are performed in accordance with ASTM D 698 and D 1557, respectively. Generally, the Standard Proctor compaction test is run on samples from building or parking areas where small compaction equipment is anticipated. The Modified compaction test is generally performed for heavy structures, highways, and other areas where large compaction equipment is expected. In both tests a representative soil sample is placed in a mold and compacted with a compaction hammer. Both tests have three alternate methods.

Test	Method	Hammer Wt./Fall	Mold Diam.	Run on Material Finer Than	No. of Layers	No. of Blows/ Layer
Standard	A	5.5 lb./12"	4"	No. 4 sieve	3	25
D 698	B	5.5 lb./12"	4"	3/8" sieve	3	25
	C	5.5 lb./12"	6"	3/4" sieve	3	56

Test	Method	Hammer Wt./Fall	Mold Diam.	Run on Material Finer Than	No. of Layers	No. of Blows/ Layer
Modified	A	10 lb./18"	4"	No. 4 sieve	5	25
D 1557	B	10 lb./18"	4"	3/8" sieve	5	25
	C	10 lb./18"	6"	3/4" sieve	5	56

The moisture content and unit weight of each compacted sample is determined. Usually 4 to 5 such tests are run at different moisture contents. Test results are presented in the form of a dry unit weight versus moisture content curve. The compaction method used and any deviations from the recommended procedures are noted in this report.

Laboratory California Bearing Ratio Tests: The California Bearing Ratio, generally abbreviated to CBR, is a punching shear test and is a comparative measure of the shearing resistance of a soil. It provides data that is a semi-empirical index of the strength and deflection characteristics of a soil. The CBR is used with empirical curves to design pavement structures.

A laboratory CBR test is performed according to ASTM D 1883. The results of the compaction tests are utilized in compacting the test sample to the desired density and moisture content for the laboratory California Bearing Ratio test. A representative sample is compacted to a specified density at a specified moisture content. The test is performed on a 6-inch diameter, 4.58-inch-thick disc of compacted soil that is confined in a cylindrical steel mold. The sample is compacted in accordance with Method C of ASTM D 698 or D 1557.

CBR tests may be run on the compacted samples in either soaked or unsoaked conditions. During testing, a piston approximately 2 inches in diameter is forced into the soil sample at the rate of 0.05 inch per minute to a depth of 0.5 inch to determine the resistance to penetration. The CBR is the percentage of the load it takes to penetrate the soil to a 0.1 inch depth compared to the load it takes to penetrate a standard crushed stone to the same depth. Test results are typically shown graphically.